A STUDY TO ASSESS THE EFFECTIVENESS OF MASSAGE THERAPHY ON BEHAVIOURAL RESPONSE OF NEWBORN DELIVERED BY LSCS MOTHER IN SELECTED HOSPITALS AT NAGERCOIL.

A DISSERTATION SUBMITTED TO THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT OF REQUIRMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING.

APRIL - 2016

A STUDY TO ASSESS THE EFFECTIVENESS OF MASSAGE THERAPHY ON BEHAVIOURAL RESPONSE OF NEWBORN DELIVERED BY LSCS MOTHER IN SELECTED HOSPITALS AT NAGERCOIL.

BY

MRS.LATHA

EXTERNAL **INTERNAL**

A DISSERTATION SUBMITTED TO THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT OF REQUIRMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING.

APRIL – 2016

CERTIFIED THAT THIS IS THE BONAFIED WORK OF

MRS.LATHA

ELLEN COLLEGE OF NURSING,

NAVAKARAI, COIMBATORE.

SUBMITTED IN PARTIAL FULFILMENT OF REQUIRMENT FOR THE DEGREE OF MASTER OF SCIENCE IN NURSING TO THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI.

COLLEGE SEAL

CAPT.Dr.KALPANAJAYARAMAN,M.Sc(N), MBA, Ph.D.,

PRINCIPAL,

ELLEN COLLEGE OF NURSING,

COIMBATORE – 641 105,

TAMILNADU.

A STUDY TO ASSESS THE EFFECTIVENESS OF MASSAGE THERAPHY ON BEHAVIOURAL RESPONSE OF NEWBORN DELIVERED BY LSCS MOTHER IN SELECTED HOSPITALS AT NAGERCOIL

APPROVED BY THE DISSERTATION COMMITTEE
ON .....

RESEARCH
GUIDE.....

CAPT. Dr. KALPANA JAYARAMAN M.,Sc(N), MBA, Ph.D.,

PRINCIPAL,

ELLEN COLLEGE OF NURSING, COIMBATORE.

CLINICAL
GUIDE.....

PROF. S. MEERA M.Sc., (N)
H.O.D OF PEDIATRIC NURSING
ELLEN COLLEGE OF NURSING, COIMBATORE

MEDICAL
EXPERT.....

Dr.KIRUBAHARA LAL., M.B.B.S.,DCH.,

FLEMY GRACE HOSPITAL

THICKANAMCODE, NAGERCOIL.

A DISSERTATION SUBMITTED TO THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI, IN PARTIAL FULFILMENT OF REQUIRMENT FOR THE DEGREE OF

MASTER OF SCIENCE IN NURSING

APRIL - 2016

ACKNOWLEDGEMENT

ACKNOWLEDGEMENT

"At times, our own light goes out and is rekindled by a spark from another person. Each of us has cause to think with deep gratitude of those who have lighted the flame within us." I take this opportunity to acknowledge them all.

First of all I thank **GOD ALMIGHTY** for showering his abundant blessings and giving me the strength to complete the study successfully.

I express my sincere and heartfelt gratitude to **Chairman and correspondentDr. A.GUNASINGH EMMANUEL, M.A., B.L., Ph.D.,** and **Dr. JASMINE GUNASINGH**, **Managing Trustee** of Ellen College of nursing for the precious opportunity of being a part of this estimated institution.

With deep sense of gratitude, I express my thanks to our beloved **Principal,Capt.Dr.KalpanaJayaraman, M.Sc(N),MBA, Ph.D.,** Nursing, Ellen College Of Nursing and research guide who taught the concept of research and offered constant support, encouragement and guidance throughout my research study.

I extend my sincere thanks to **Prof.Mrs.S.SusilaKumariM.Sc (N) Vice Principal,** Head of the Department of Mental Health Nursing, Ellen College of nursing, for the constant supervision and guidance in completion of my study.

I am greatly obliged and extend my heartfelt appreciation and thanks to **Assistant Professor, Mrs.A.MEERAM.Sc(N),**HOD, Department of pediatric Nursing, Ellen college of nursing, for their guidance and support and valuable suggestion for the study.

Its my pleasure to extend my heartfelt appreciation and thanks to **Associate Professor, Mrs.G.MahalakshmiM.Sc(N),** Principal, Head of the Department of Community health nursing, Royal College of nursing, for the constant supervision and guidance in completion of my study successfully.

I express my sincere gratitude to **Mrs.AhilaM.Sc(N),** Class co-ordinatorfor her untiring guidance, timely suggestion and elegant direction in every phase of my study.

I extend my sincere thanks to all the medical and nursing experts who have given their enlightening ideas in giving shape to the study in its early stage.

A memorable note of gratitude to the dean of FLEMY GRACE HOSPITAL and the staffs working in that hospital, for granting permission and cooperation for conducting the study in their hospital.

I also thank all the postnatal mothers for their active involvement, trust, cooperation & support which they extended in completing the endeavor. Without their support and co-operation this dissertation would not been possible.

Words are inadequate to express the affection, inspiration and devotion shown by my beloved husband MR.T.JOHN SHYLAS my beloved son, Master.BENICKSON and my daughter Ms.BRITNY for their unending words of encouragement and constant support throughout this study.

A special bouquet of thanks to all my lovable friends specially Mrs.SATHYA SWEETLY M.Sc(N), MBA who helped me a lot to complete the study.

I extend my grateful thanks to those who helped me directly and indirectly during my project work.

ABSTRACT

ABSTRACT

A study to assess the effectiveness of massage theraphy on Behavioural response of newborndelivered by LSCS mother in selected hospitals at Nagercoil.

The objectives of the study were,

1. To assess the health status of the newborn delivered by LSCS mother in experimental and control group.
2. To determine the effectiveness of the massage therapy of newborn delivered by LSCS mother in experimental group.
3. To find out the association between massage therapy and Behavioural response of the newborn with respect to their selected variables in the experimental and control group.

Quasi experimental study design was adopted and the study conducted in Flemy Grace Hospital, Thickanomcode, Nagercoil. A total of 60 newborn babies were selected for the study out of these 30 babies were in experimental and 30 babies were in the control group, who fulfilled the exclusive criteria were selected by using the purposive sampling technique. The coconut oil massage was applied to the samples for 10 minutes in the morning for 5 days. Pre and post behavioural assessment was done using Brazelton Neonatal Scale. The data analysis was done by using descriptive and inferential statistics. Samples in experimental group showed a highly significant improvement in the behavioural level of the newborn babies following the application of massage therapy ($p<0.005$), in comparison with the control group.

CONTENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

CHAPTER I

INTRODUCTION

CHAPTER II

REVIEW OF LITERATURE

CHAPTER III

METHODOLOGY

CHAPTER IV

DATA ANALYSIS & INTERPRETATION

CHAPTER V

DISCUSSION

CHAPTER VI

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

REFERENCES

CHAPTER I

INTRODUCTION

“Touching is the first communication a baby receives,”

-FREDERICLEBOYER

Massage therapy is one of the oldest health care practices known to history. References to massage are found in Chinese medical texts more than 4000 years old. Massage has been advocated in western health care practices at least since the of Hippocrates, the " father of medicine". In the fourth century Hippocrates wrote "The physician must be acquainted with many things and assuredly with rubbing .The basic philosophy of massage therapy embraces the concept of vismedicateix nature, which is aiding the ability of the body to heal itself, and is aimed at achieving or increasing health and wellbeing. Massage may be the oldest and simplest form of medical care.

The word massage apparently derived from either the Greek word ‘’massein’’ –to knead or the Arabic ‘’Mash’’- press, touch, feel and the Latin ‘’Massa – to squeeze or knead.

Infant massage is the language of touch. It enhances child development, including brain, physical, emotional, mental and social development.

Infant massage was first introduced in China 2nd century BC. Massaging the newborn has been a tradition in India and other Asian countries since time immemorial. In India specifically; the daily routine of massage is thought to contribute to the precocious motor development of Indian infants.

Massage therapy is the scientific manipulation of the soft tissues of the body for the purpose of normalizing those tissues and consists of manual techniques that include applying fixed or movable pressure holding and, or causing movement of or to the body.

Frederic Leboyer M.D was the first physician to challenge Western society

deeply held beliefs about awareness in the newborn. He was one first doctor to record the ancient art of baby massage. His book Loving Hands; the traditional art of baby massage was first published in 1976. From the creation of his book, infant massage began to spread across the world, more embraced and accepted.

Infant massage is not only emotional communication between parents and baby, it is also beneficial to the health of the baby. Infant massage can help speedup baby's metabolism, reduce muscle tension, such as effectiveness. Massaging through the baby's skin can stimulate the baby's body to produce more hormones, promote good digestion, absorption and excretion, accelerating the growth of body weight. The activities of baby body massages the muscles, limbs grow more robust, more physical health. Massage can help baby to sleep, reduce emotional irritability.

In many Western cultures health staff and independent practitioners are undertaking training to teach infant massage techniques to parents of healthy babies in the community with the aim of promoting mother-infant interaction and optimal infant development. Infant massage is a form of alternative medicine that is becoming increasingly popular because it is simple to do and requires very little equipment.

In other hand, Infant massage helps to teach the baby the way to relax. As with all things, babies have to learn the art of relaxation. Babies who are massage often tend to sleep better and more restfully than babies who are not massaged.

Massage is found to be more useful when some kind of lubricant oil is used. Various oil preparations are used depending on the regional availability, the common oil used are sunflower and coconut oil.

A study published in Indian Pediatrics Journal has shown that massaging newborn babies with coconut oil is helpful in gaining weight and building bone mass.

NEED FOR THE STUDY

A BABY IS SOMETHING YOU CARRY INSIDE FOR 9 MONTHS, IN YOUR ARMS FOR 3 YEARS AND YOUR HEART TIL YOU DIE.

-MARY

By little touching and rubbing the entire body, of the baby causes comfort, both physically and psychologically. Nature massages the baby in the womb where contractions rhythmically squeeze and push. Studies show that more the babies are touched, nurtured and tenderly massaged, the happier and more balanced they grow. It enhances the bonding, improves sleep patterns, stimulates circulation, improves digestion, facilitates food absorption and results in faster weight gain.

Massage is more methodological touch intended to stimulate the child. Many researchers believed that babies grow and act better when they receive an infant massage. Infant massage is a skin- to skin connection that helps parents and an infant connect better with one another. Healthcare providers have hypothesized that babies who are touched a lot glow better. There is a biological connection between stroking and grooming infants and their growth. Touch stimulates growth promoting hormone and increases the enzyme activity that makes the cells of the vital organs more responsive to the growth promotion effects of the hormone.

In other hand, baby's brain releases the hormone oxytocin and the sleep hormone melatonin. Oxytocin is a hormone that has many wonderful benefits for the baby, it is only released through touch; massaging is the most effective way for the baby to receive the many positive physical effects that associated with oxytocin such as improved sleep, balancing blood pressure, and relaxation. Oxytocin and Melatonin create the right balance to help regulate the child's brain to prepare them for sleep.

Various techniques are used in infant massage with the different strokes specific to a particular therapy. Special handling is used for treating a baby with gas and colic. Some of the strokes are known as "Indian milking," which is a gentle stroking of the child's legs; and the "twist and squeeze" stroke, a gentle squeeze of the muscles in the

thigh and calf. The light "feather" strokes often employed in regular Swedish massage are applied at the end of a massage. The procedure is not unlike certain forms of adult massage, but with extra care taken for the fragility of the infant. There are also specific Chinese techniques of paediatric massage, including massage of children with special needs. In China, these forms of massage can be given by medical professionals, but parents are often taught how to do the simpler forms for home treatment of their children.

If lotions or oils are used, care is taken to ensure their safety on a baby's delicate skin. The most important consideration is to use vegetable oils rather than mineral oils, which can clog the pores in the skin. The oil that is used should be warmed in the caregiver's hands before applying it to the baby's skin. The environment in which the massage is given to an infant should be comfortably warm and as calm and nonthreatening as possible.

The massage has a great impact on the psychological state and further mental and physical development of the child. Additionally it greatly helps mother to reduce stress and anxiety especially after labor.

About 1.2 million neonates die annually in India alone, amounting to almost one-fourth of all global newborn deaths. Two-third of infant deaths in India occurring the first month of life, and three-fourth of newborn deaths occur in first week and 90 percent of all neonatal deaths occur by the fifteenth day of life. Most (70%) of newborn in India die due to low birth weight, infections and complications of pregnancy.

The result of several studies showed that infant massage alleviates the stress that newborns experiences as a result of the enormous change that birth brings about in their lives after the 9 months they have spent in the womb. Both full term babies and premature infants need the relaxation that comes from massaging and moving their limbs and muscles. The stimulation an infant receives from massage can aid circulation, strengthen muscles, help digestion and relieve constipation.

In a study by Scalfidi, forty preterm infants were subjected to tactile/kinesthetic stimulation of 45 minutes per day for 10 days. It was observed that

infants who received massage had 21% greater weight gain.

A randomized controlled trial was conducted where sixty clinically stable newborns with a corrected gestational age of 35 to 37 weeks receiving parenteral nutrition in the hospital nursery were included. There were no differences between groups in gender, gestational age, initial weight, head circumference, and caloric intake and type of nutrition at baseline. Infants receiving massage had a larger weight gain versus the control group since the third day.

Neonatal nurses have a vital role to play in enabling Behavioural response of neonate through massage therapy. It facilitates almost all comfort feelings to the mother and her infant such as closeness, warmth, care, contacts and affection. Massage therapy is one of the effective way by which the Behavioural response of the newborn can be achieved in terms of reduction in crying spells and improving the feeding and sleeping pattern and no adverse side effects have been reported when infant massage is done properly after careful instruction. Hence, the researcher felt the need of conducting an experimental study of massage therapy with oil on neonates sleeping pattern, crying spells, feeding pattern and weight gain.

A study was conducted at the Touch Research Institutes at the University Of Miami School Of Medicine and Nova South eastern University has proved the clinical benefits of massage on infants and children. Touch therapy triggers many physiological changes that help infants and children growth and develop. For example, massage can stimulate nerves in the brain which facilitate food absorption, resulting in faster weight gain. It also lowers the level of stress hormones, resulting in improved immune function." The benefits of infant massage include relaxation, relief from stress, interaction with adults and stimulation of the nervous system. In infants with colic, massage provides the relief necessary to disperse gas, ease muscle spasm, tone the digestive system and help it work efficiently. Some techniques even help bring relief from teething and emotional stress. Stimulating an infant with massage aid circulation, strengthen muscles, help digestion and relieve constipation.

A study was carried out among 60, one month old infants to evaluate the

positive effects of massage with oil. The results of the study showed that massage had a soothing/calming influence on the infants and the infants received massage with oil were less active, showed fewer stress behaviors and head averting and their salivary cortisol levels decreased more. Vagal activity also increased more following massage with oil versus massage without oil.

Infant massage therapy provides many benefits for the infant .A caring touch is good for everyone, but especially for infants who are new to the world and need the assurance of someone special being their there for them. However, there are some major benefits for the massage givers as well. They again an increased awareness of the baby and his or her needs while enhancing the bonding process between care giver and baby.

Recent evidence has demonstrated that the topical oil or emollient massage therapy is effective in reducing the neonatal infections and mortality by 41 % and 26% respectively, emollient therapy is a promising option for improving newborn care.

Hence the investigator felt the need to assess the effectiveness of massage theraphy for newborn delivered by LSCS mothers.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of massage theraphy on behavioral response of newborndelivered by LSCS mother in selected hospitals at Nagercoil.

OBJECTIVE

1. To assess the health status of the newborn delivered by LSCS mother in experimental and control group.
2. To determine the effectiveness of the massage therapy of newborn delivered by LSCS mother in experimental group.
3. To find out the association between massage therapy and behavioral response of the newborn with respect to their selected variables in the experimental and control group.

HYPOTHESIS

H1: There will be significant difference between the pre and post test level of health status among newborns delivered by LSCS mothers in the experimental and control group.

H2: There will be a significant association between the pretest level of health status among newborns delievered by LSCS mother with their selected variables in experimental and control group.

OPERATIONAL DEFINITIONS

ASSESS

In this study, it refers to find the effectiveness of behavioral response of newborn.

EFFECTIVENESS

In this study, it refers to the effect of massage theraphy in terms of reduction in crying spells, improvement in sleeping pattern, feeding pattern and weight gain.

MASSAGE THERAPHY

In this study, it refers to massaging the newborn by using coconut oil all over the body, 10 minutes duration for 5 days.

BEHAVIOURAL RESPONSE

In this study, it refers to the increased sleeping time, feeding frequency, weight and reduction of crying episodes.

NEWBORN

It refers to the newborn baby from birth to 28 days, who delivered by cesarean section mothers and weighing more than 2 – 2.5 kg

LSCS

It is a surgical procedure in which incisions are made through a woman's abdomen and uterus to deliver the baby.

ASSUMPTION

1. Oil massage may be an alternative technique for the behavioral response of newborn

2. Oil massage may be induce the growth and development of newborn babies.

DELIMITATION

1. The study is delimited to 4 weeks.
2. Early neonatesdelievered by LSCS mother who weighed more than 2kg.
3. Early neonates available during the data collection period.
4. The study is delimited to the selected oils such as coconut oil.
5. LSCS mothers who are willing to participate in the study.

PROJECTED OUTCOMES

- The result of the study will provide information on massagtheraphy with low cost coconut oil in community setting for the behavioral response of newborn.
- The result obtained will help the health team members to motivate the community regarding the coconut oil massage among newborns for the promotion of health.

CHAPTER II

REVIEW OF LITERATURE

"To acquire knowledge, one must study; but to acquire wisdom, one must observe".
MarylinYosSayant

A review of literature is a body of text that aims to review the critical points of current knowledge and methodological approaches on a particular topic, the role of the literature review is to formulate and clarify the research problems, to ascertain what is already known in relation to problem of interest, for developing a broad conceptual context facilitate cumulating of scientific knowledge for interpreting the result of the study.

This chapter deals with the review of literature related to the effectiveness of massage theraphy on behavioral response among newborn delievered by LSCS mothers.

Choudary(2008) was conducted a study to evaluate the effectiveness of massage therapy on behavioral response of newborns. The convenience sampling technique was used. Pre and post assessment was done by using Brazelton's Neonatal assessment scale. The subjects were given massage with coconut oil all over the body except face for 20 minutes per day for five days. The result of the study revealed that behavioral response was achieved by applying massage therapy on and the crying spells reduced, feeding frequency increased and sleeping time increased.

Biradar(2008) was conducted a study to assess the effects of moderate and light pressure massage on the growth and development of young infants. A recent study showed that persons who were given moderate pressure massage when compared with infants who received light massage or vibratory stimulation decrease in heart rate, EEG changes associated with a relaxation response and decrease in stress. Mothers were instructed to massage their newborn infants once per day using either light or moderate pressure .The infants' growth (i.e., weight, length, and head circumference), sleep behavior and performance on the Braselton scale were assessed soon after birth and at one month of age. As compared to infants who received a light pressure massage, infants in the moderate pressure group gained more weight, were of greater length, performed better on the orientation scale of the Braselton and exhibited less agitated behavior during sleep.

Kokore(2010) was conducted a study to the assess effect of massage with

coconut oil versus mineral oil and placebo (powder) on growth velocity and neuro-behavior in well term and preterm babies in the premature unit and the postnatal wards of a major teaching hospital in a metropolitan city, Mumbai was evaluated intramural preterm appropriate for gestational age babies weighing between 1500 to 2000 grams and term births weighing more than2500 grams fulfilling the inclusion criteria constituted the two gestation age categories studied. Babies in each group were randomized to receive massage with either coconut oil, mineral oil or with placebo. Oil massage was given by a trained person from day 2 of life till discharge, and thereafter by the mother until 31 days of age, four times a day. Babies were followed up daily till discharge and every week after discharge for anthropometry. Neurobehavioral outcome was assessed by the Brazelton Score at baseline, day 7 and on day 31. Results showed that Coconut oil massage resulted in significantly greater weight gain velocity as compared to mineral oil and placebo in the preterm babies group and in the term baby group, as compared to the placebo. Preterm infants receiving coconut oil massage also showed a greater length gain velocity compared to placebo group. No statistically significant difference was observed in the neurobehavioral assessment between all three subgroups in term babies as well as in preterm babies.

G.T.B Hospital, Delhi(2010)was conducted an experimental study to assess the effects of massage and use of oil on growth and sleep pattern in infants.The data was collected randomly from full term born healthy infants (n=125), 6+/- 1week of age, then weight>3000g were randomly divided into five groups. Infant received (i) herbal oil, (sesame oil, (iii) mustard oil or (iv) mineral oil for massage daily for 4 weeks. The fifth group did not receive massage and served as control group. The study tools were anthropometric Measurement; micro haematocrit; serum proteins, creatinine and creatine phosphokinase; blood flow using color Doppler and sleep pattern. The result revealed massage improved weight, length and midarm and mid leg circumferences as compared to infants without massage. There was no change in micro haematocrit, serum: proteins, albumin, creatinine and creatine phosphokinase between both the groups. Massage improved the post massage sleep, the maximum being 1.62 hours in the sesame oil group ($P < 0.0001$)

In this study, preterm and term infant massage therapy studies are reviewed. Massage therapy has led to weight gain in preterm and term infants when moderate pressure massage was provided. In studies on passive movement of the limbs, preterm and term infants also gained significantly more weight, and their bone density also increased. The use of oils including coconut oil and sunflower oil enhanced the average weight gain. In addition, the use of synthetic oil increased vagal activity, which may indirectly contribute to weight gain. The weight gain was associated with10shorter hospital stays and, thereby, significant hospital cost savings.

Dr. Angela(2012) was conducted a study to an experimental study to evaluate the responses of premature and term infants to massage. These responses measured by weight, physiological (vagal tone, heart rate, oxygen saturation) and behavioral responses (behavioral states, motor activities, and behavioral distress). The data were collected for 10 minutes prior to and 10 minutes after the massage. The result of the study showed that the weight of the baby was significantly increased after massage; vagal tone was significantly higher after massage than before massage in the experimental group, while no change in the control group. The experimental group had significantly higher scores for awake state and motor activity than the control group. The study concluded that massage therapy might enhance optimal physiological responses.

Sunitha et al(2013) was conducted a prospective, randomized, cross-over design study to increase weight gain in preterm and term infants. Infants were randomized to 5 days of massage followed by 5 days of no massage (n = 5) or the opposite sequence (n = 5). During the massage therapy period, massage was provided daily for three 15 minute periods at the beginning of each 3 hour period every morning. The result of the study has shown that the energy expenditure was significantly lower in infants after the 5 day massage therapy period than after the period without ($p = 0.05$).The study concluded that, energy expenditure is significantly lowered by 5 days of massage therapy in metabolically and thermally stable preterm and term infants. This decrease in energy expenditure may be in part responsible for the enhanced growth caused by massage therapy.

Diego(2002), a significant increase in vagal activity was noticed during the period of 15 minute massage therapy. The vagal activity was interpreted from ECG as a measure of heart rate variability. It was also seen that there was a significant increase in gastric motility in post massage period. It was postulated that massage causes increase in vagal activity, hence improved gastric motility; this leads to better absorption of nutrients resulting in better weight gain.

Smith (2011)was conducted a double blinded randomized control trial to evaluate the effect of massage with coconut oil on weight gain in preteen and term newborns. 73 newborns were randomly assigned to 3 groups. The weights of the newborns in all 3 groups were measured daily by a nurse who was blinded to the study. the results showed that there was a significant different between the weight gain in the 3 groups after the intervention and hence concluded that, massage with coconut oil has positive effect on weight gain in newborn.

Parulekar(2011) was conducted a quasi experimental study to assess the effectiveness of massage therapy on phase adjustment of rest activity and melatonin secretion rhythm to the nocturnal period in full term infants. Rest activity of infants was measured by actigraphy before and after 14 days of massage therapy and subsequently at 6 and 8 weeks of age .The result of the study showed that at 12 weeks, nocturnal melatonin excretion were significantly higher in the treated infants .Thus massage therapy by mothers in the perinatal period serves as a strong time cue, enhancing co-ordination of the developing circadian system with environmental cues.

A quasi experimental study was conducted to compare the effect of massage with coconut oil on growth and neurobehavioral among infants. The results of the study as shown that coconut oil as greater impact on weight gain. The study concluded that weight is an important factor and oil massage must be followed to increase weight of the baby.

Studies from several labs have documented a 31 to 47% greater weight gain in preterm newborns receiving massage therapy (three 15-min sessions for 5–10 days) compared with standard medical treatment. Massage therapy has led to weight gain in preterm infants when moderate pressure massage was provided and passive movement of the

limbs also gained significantly more weight and their bone density also increased. Research on ways of delivering the massage is also explored including using mothers versus therapists and the added effects of using oils. The use of oils including coconut oil and sunflower oil enhanced the average weight gain and the transcutaneous absorption of oil also increased triglycerides. In addition, the use of synthetic oil increased vagal activity which may indirectly contribute to the weight gain. The weight gain was associated with shorter hospital stays and there by reducing hospital cost savings. Despite these benefits, preterm infant massage is practiced only in 38% of neonatal intensive care units.

The study was carried out to gain insights into oil-massage practices and acceptability of skin barrier-enhancing emollients in young, preterm Bangladeshi neonates. Preterm infants of <33 weeks gestational age were randomized to high-linoleate sunflower seed oil, Aquaphor Original Emollient Ointment or the comparison group (usual care). A survey was administered at admission to assess routine skin-care practices prior to admission and at discharge to assess acceptability of emollient therapy during hospitalization. Oil massage was given to 83 (21%) of 405 babies before hospital admission, 86% (71/83) of whom were delivered at home. Application of oil, most commonly mustard oil (88%, 73/83), was started within one hour of birth in 51 cases (61%) and was applied all over the body (89%, 74/83) one to six (mean 2.2) times before admission. Of infants who received emollient therapy in the hospital, 42% (n=32) of mothers reported that the emollient applied in the hospital was better than that available at home and only 29% would use the same oil (i.e. mustard oil) in the future as used previously at home. No problems resulted from use of emollient in the hospital. Topical therapy with sunflower seed oil or Aquaphor was perceived by many families to be superior to mustard oil. If caregivers and health professionals can be motivated to use inexpensive, available emollients, such as sunflower seed oil that are beneficial, emollient therapy could have substantial public-health benefit.

CONCEPTUAL FRAMEWORK

THEORY APPLICATION

BEHAVIOURAL RESPONSE MODEL

Conceptual framework is defined as a theoretical approach to the study of the problems that are scientifically based, which emphasis the selection arrangement ad classification of its concept.

A conceptual model gives a clear picture for logical thinking for systematic observation and interpreting the observed data. The model also gives direction for revelant question on phenomenon on point out solution to practical problem.

The conceptual model framework deals with the concepts of the research problem assembled together that provides a certain frame of reference. The framework helps and guides the researcher to gain to insight into the problems by explaining the relationship between the facts.

One of the important purposes of theoretical framework is to communicate clearly the relationship of various concepts. Theoretical framework of reference for clinical practice, research and education.

The theoretical framework for the present study is developed from behavioral response model to Pender's behavioral response is directed towards the increasing level of well being and actualizing the behavioral response of all the individuals.

In the present study the concept of Pender's behavioral response model utilized were the newborns delivered by LSCS mothers. Determinants of behavioral response behaviourorganised into cognitive perceptual factors, modifying factors participation and the likelihood of being engaged in the behavioral response behaviour which depends on cues of action, such as health messages and oil massage.

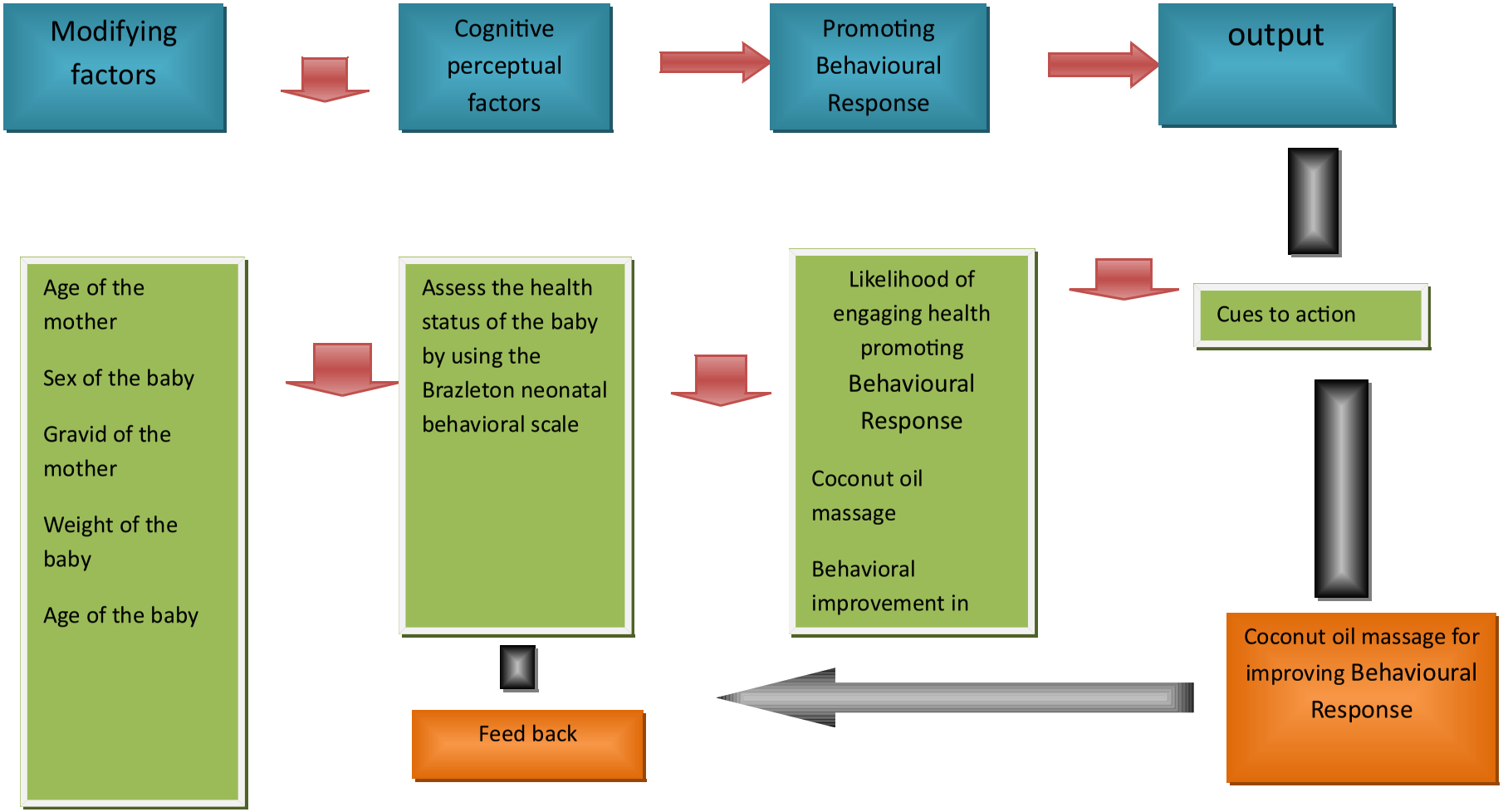
Cognitive perceptual factors:- these are the primary motivational mechanisms for the activities related to the behavioral response like the importance of health, the perceived control of health, self efficiency, perceived health benefits and barriers of promotion which are reflected by assessing their knowledge through their structure interview scheduled regarding oil massage of newborn.

Modifying factors:- these are the demographic variables of age of the mother, sex of the baby, gravid of the mother, weight of the baby, age of the baby which influence the newborn in behavioral response behaviour.

Participation in behavioral response:- the model represents the interrelationship between cognitive perceptual factor and modifying factors influencing the occurrence of behavioral response behaviour of the newborn babies and likelihood of maintaining health.

Cues to action:-Further the investigation has planned and applied the coconut oil massage for the behavioral response of newborn delivered by LSCS mothers which has a cue to action, which in turn will help in the promotion of health and prevention of complication in later period.

CONCEPTUAL FRAMEWORK



PENDER'S MODIFIED BEHAVIOURAL RESPONSE

CHAPTER III
RESEARCH METHODOLOGY

Research methodology refers to the technique used to structure a study and to gather and analyze information in a systematic fashion **(Polit 2009)**

Methodology includes the steps, procedure, and strategies for gathering and analyzing the data in the research investigation.

This chapter deals with Research approach, research design, variables, settings of the study, population, sample, sample size, sampling technique, criteria for selection of sample, development and description of the tool, scoring key, intervention, content validity, reliability, pilot study, data collection procedure, plan for data analysis, protection for human rights.

RESEARCH APPROACH

Quantitative research approach was used for this study.

RESEARCH DESIGN

The research design adopted for this study was quasi experimental pre and post test control group design. This design is represented as below:

GROUP	PRETEST	INTERVENTION	POST-TEST
Experimental group	E1	X	E2
Control group	C1	-	C2

Fig 2 : schematic representation of research design

Key

E1 – Pre-test level of health status in newborn delivered by LSCS mother in experimental group.

E2 – Post test level of health status in newborn delivered by LSCS mother in experimental group.

X – Coconut oil massage therapy

C1 – Pre-test level health status among newborn delivered by LSCS mother in experimental group.

C2 – Post test level of health status among newborn delivered by LSCS mother in the control group.

VARIABLES

According to **Denise F Polit (2011).,** variables is defined as "An attribute that varies, that is takes on different values".

Independent Variables

- Oil massage

Dependent Variable

- Changes in behavioral aspects among newborn babies.

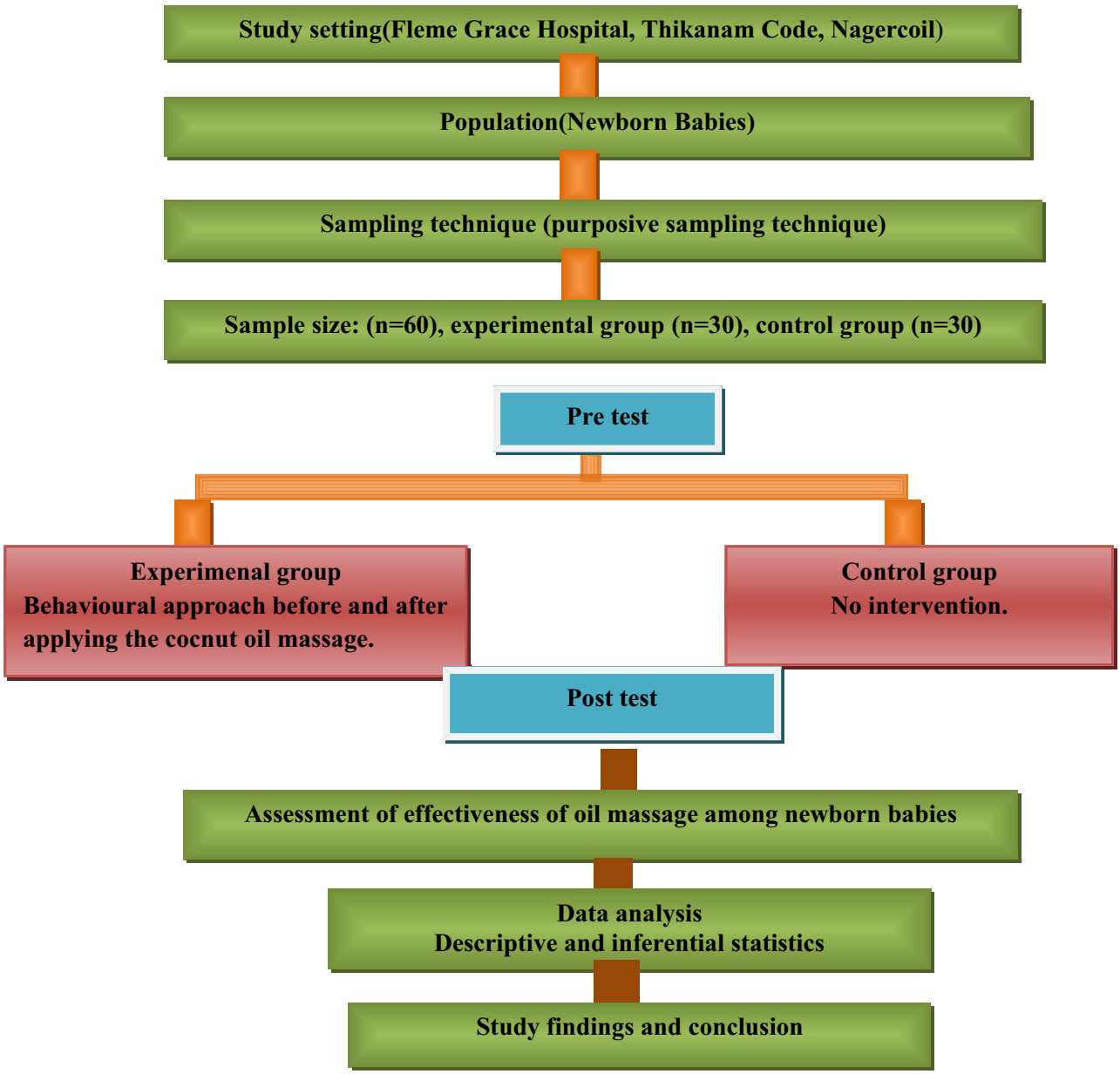


Fig 3.OVERALL VIEW OF RESEARCH METHODOLOGY

SETTING OF THE STUDY

The setting of the study refers to the area where the study was conducted. The study was conducted in Flemy Grace Hospital at Thikanamcode

POPULATION

In the present study the accessible population was newborn babies and their mothers who are willing to participate in the study in Flemy Grace Hospital, Thikanamcode

SAMPLE

The samples selected for the present study is 60 newborn babies of them 30 were selected for experimental and 30 for control group.

CRITERIA FOR SAMPLE SELECTION

INCLUSIVE CRITERIA

- Normal newborn with weight more than 2kg without any anomalies and minor illness such as fever, diarrhea.
- Newborn delivered by LSCS
- Newborn hospitalized for 5 days.
- Newborn delivered under spinal anesthesia.
- Mothers who are willing to participate in the study.
- Mother who can communicate Tamil and English.

EXCLUSIVE CRITERIA

- Newborn who have experienced perinatal complication.
- Newborn of high risk mothers.
- Newborn admitted in NICU
- Newborn with gestational age of less than weeks and more than 40 weeks.

SAMPLING TECHNIQUE

The samples for the study were selected by adopting non-probability purposive sampling technique. The investigator has chosen the sample by using the inclusion and exclusion criteria and indentified 60 newborn babies

.

DEVELOPMENT AND DESCRIPTION OF TOOL

The study is aimed at evaluating the effectiveness of oil massage for newborn babies.

FORMAT OF THE TOOL

The tool consists of two parts:

PART I: Background Variables

PART II: Modified Brazelton Neonatal Assessment Scale

PART I: BACKGROUND VARIABLES

SECTION A: Demographic variables of the mother consisted of age of the mother, gravid of the mother, education of the mother, occupation of the mother, previous knowledge regarding oil massage.

SECTION B: Demographic variables of the baby consisted of age of the baby, sex of the baby, weight of the baby, gestational age of the baby, head circumference of the baby.

PART II: Modified Brazelton Behavioral Assessment Scale

It consisted of Modified Brazelton Neonatal Assessment Scale. The scale was developed by Dr.Brazelton in 1973 . It is a four point scale and five behavioral state with different variables in each state.

MODIFIED BRAZELTON NEONATAL BEHAVIOURAL ASSESSMENT SCALE

S.NO	BEHAVIOURAL PATTERN	SCORE			
		1	2	3	4
1	**HABITUATION**				
	Sleepy/drowsy				
	Awake/alert				
	Fussing/crying				
2	**SOCIAL INTERACTION**				
	Alertness				
	Responds to mothers voice				
	Focuses the voice				
3.	**AUTONOMIC SYSTEM**				
	Tremulousness				
	Startles				
	Smiles				
	Liability of skin colour				
4.	**STATE REGULATION**				
	Cuddliness				
	Consolability				
	Self-quieting				
	Hand-to-mouth				
5.	**MOTOR REGULATION**				
	Muscle tone				
	Motor maturity				
	Activity and posture				
	Reflexes				
	Pull-to-sit				
	Defensive				

Score

1 – None 2 – Mild 3 – Moderate 4 - Severe

The score was interpreted as follows

Score	Level of behavior	Interpretation of behavioral status
1	None	<20
2	Mild	21-40
3	Moderate	41-60
4	Severe	61-80

INTERVENTION

Coconut oil massage is found to be very effective in improving the health status of the newborn.

In this study the investigator applied coconut oil massage for the newborn delivered by LSCS mother. Before that the investigator explained the procedure to the mothers and got consent from the dean of the hospital.

Apply coconut oil for the newborn and smooth massage was given for 10 minutes everyday for 5days. The control group was not given anything.

CONTENT VALIDITY

The content validity of the tool was established on the opinion of five nursing experts in the field of Paediatric nursing, and one medical experts in the field of child health.

RELIABILITY OF THE TOOL

The reliability of the tool was tested by the investigator using the test – retest method (Karl Pearson's co efficient correlation) r= 0.8

PILOT STUDY

According to **Denise F Polit (2011).**pilot study is defined as " A small scale version or trial run done in preparation of a major study".

The pilot study was conducted among a sample of 6 adolescent girls, selected by purposive sampling technique the feasibility and practicability of the study was assessed. No unforeseen problem was accounted during the pilot study. The familiarity of administering the questionnaire was gained through the pilot study. Coconut oil massage was given for experimental group. The objectives and the effectiveness were examined. The data was analysed using descriptive and inferential statistics. It revealed that there was a significant difference between the experimental group and control group. It shows increase in level of behaviour in newborn in the experimental group, thus suggesting that coconut oil massage was effective for newborn to improve their behavioural status.

PROCEDURE FOR DATA COLLECTION

The study was conducted at Flemy Grace Hospital, Thikanamcode, Nagercoil. Written permission was obtained form authorities and oral consent was obtained from the subjects after explaining the purpose of the study. The parents of the subjects are informed through the daily diary and permission was obtained. The samples selected for this study was 60 newborn babies who fulfilled the inclusive criteria. Demographic variables were used to collect the data form the LSCS mother of the newborn babies. Pre and post assessment was done using the Modified Brazelton Neonatal Scale. Coconut oil massage was given for the newborn in the experimental group for the duration of 10 minutes everyday for 5 days. No intervention was given for the control group newborn. Collected data was coded, tabulated and analyzed by descriptive and inferential statistics.

PLAN FOR DATA ANALYSIS

The data will analysed with the help of descriptive statistics like mean, percentage, standard deviation and inferential statistics like independent, paired ‘t’ test and chi-square test. The association between demographic data and depend variables will be analysed with the help of chi-square test.

PROTECTION OF HUMAN RIGHTS

The investigator got the approval from the physician of Fleme Grace Hospital ,Thikanamcode, Nagercoil. Written permission was obtained from authorities and oral

consent was obtained from the subjects after explaining the purpose of the study. The information obtained was kept confidential.

CHAPTER IV

DATA ANALYSIS AND INTERPRETATION OF DATA

This chapter deals with the analysis and interpretation of the collected data from 60 LSCS mothers with behavioral change of baby in order to assess the effectiveness of massage therapy.

The purpose of analysis is to reduce the collected data to an intelligible and interpretable form, so that the relation of the problem can be tested.

According to Polit and Hugler(2005), analysis is the method of organizing, sorting and scrutinizing data in such a way that research question can be answered.

The analysis and interpretation of data is based on data collection and the results are computed by using descriptive and inferential statistics.

The study findings are presented in sections as follows:

Section**I:**Description of demographic variables of the new born babies of LSCS mothers

Section II: Assessment of health status (behavioral change) of the new born babies of LSCS mothers among the experimental and control group.

Section III: Comparison of pre test behavioral changes of the new born babies of LSCS mothers between the experimental and control group..

Section IV: Comparison of post test behavioral changes of the new born babies of LSCS mothers between the experimental and control group

Section V: Comparison of pre and post test behavioral changes of the new born babies of LSCS mothers for both the experimental and control group.

Section VI: Association between demographic variables of samples with post test of behavioral change of the new born babies of LSCS mothers between the experimental and control group.

SECTION I: DESCRIPTION OF DEMOGRAPHIC VARIABLES OF THE NEW BORN BABIES AND LSCS MOTHERS

Table.1

Frequency and percentage distribution of demographic variables of LSCS mothers.

N= 30

S.NO.	Demographic variables	Experimental Group		Control Group	
		f	%	f	%
1.	**Age**				
	a) 21-25 years	11	37	10	33
	b) 26-30 years	9	30	8	27
	c) 31-35 years	10	33	12	40
2.	**Religion**				
	a) Hindu	12	40	11	37
	b) Christian	11	37	13	43
	c) Muslim	7	23	6	20
	d) Others	-	-	-	-
3.	**Gravida**				
	a) Primi	21	70	17	57
	b) Multi	9	30	13	43
4.	**Education of the mother**				
	a) primary	12	40	11	37
	b) Higher Secondary	11	37	13	43
	c) Graduate	5	20	1	3
	d) Illiterate	1	3	6	20
5.	**Occupation**				
	a) Employed	10	33	8	27
	b) Self employed	11	37	12	40
	c) Unemployed	9	30	10	33

Table 1.describes the demographic variables of the new born babies and the LSCS mother.

With regard to the age, 11(33%) were belongs to 21-25 years, 9(27%) were belongs to 26-30 years and 19(40%) were belongs to31-35 years in the experimental group, and in the control group 10(33%) were belongs to 21-25 years,8(27%) were belongs to 26-30 years and 12.(40%) were belongs to31-35 years.

In relation to the religion, 12(40%) were Christians, 13(43%)were Hindu's and 6(20%) were Muslims in the experimental group and 11(37%) were Christians, 13(43%)were Hindu's and 6(20%) were Muslims in the control group.

With regard to gravid, 21(70%) were primigravida mothers,9(30%) were multigravida mothers in the experimental group were as 17(57%) were primigravida mothers and 13(43%) were multigravida mothers in the control group.

Regard to education of the mother,12(40%) were having basic education,11(37%) were having secondary education, 5(20%) were having tertiary education, 1(3%) were having no education in the experimental group and 11(37%) were having basic education,13(43%) were having secondary education, 1(3%) were having tertiary education, 6(20%) were having no education in the control group.

With regard to the occupation, 10(33%) were has private job,11(37%) has government job,9(30%) were unemployed in the experimental group and 8(27%) were has private job,12(40%) has government job,10(33%) were unemployed in the control group.

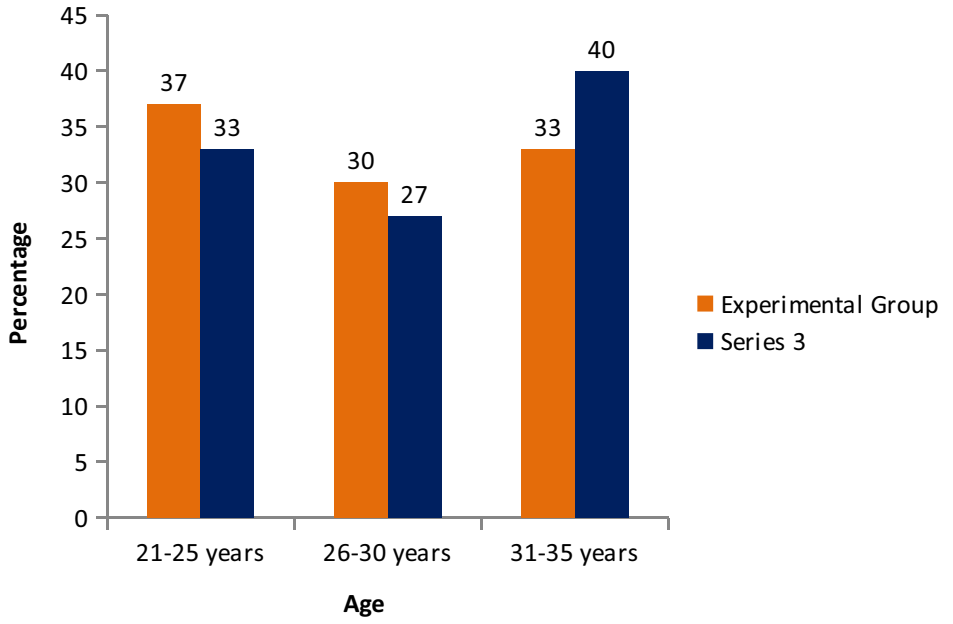


Fig4: Percentage distribution of samples according to age in years

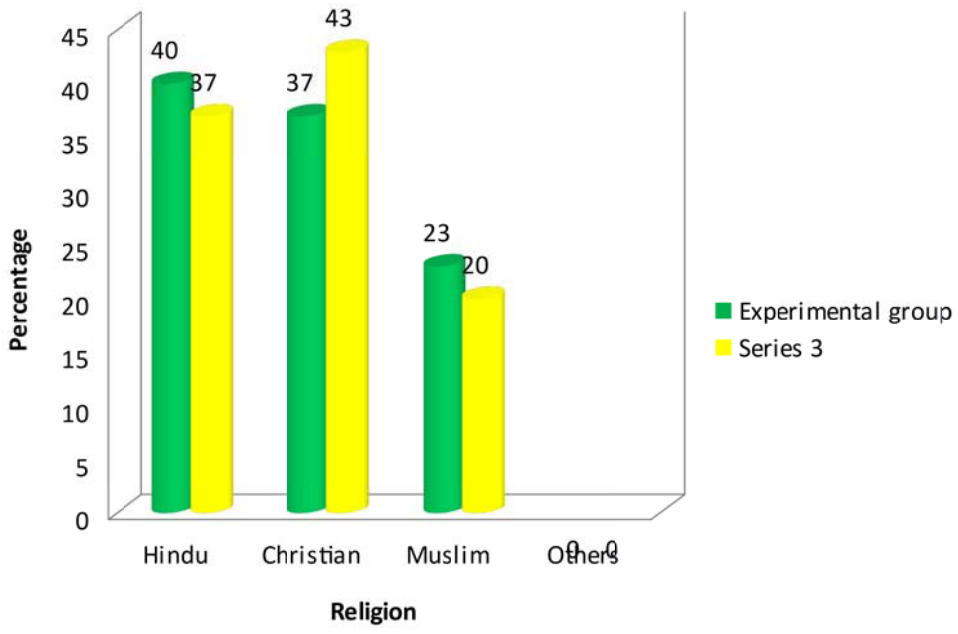


Fig 5: Percentage distribution of samples according to religion

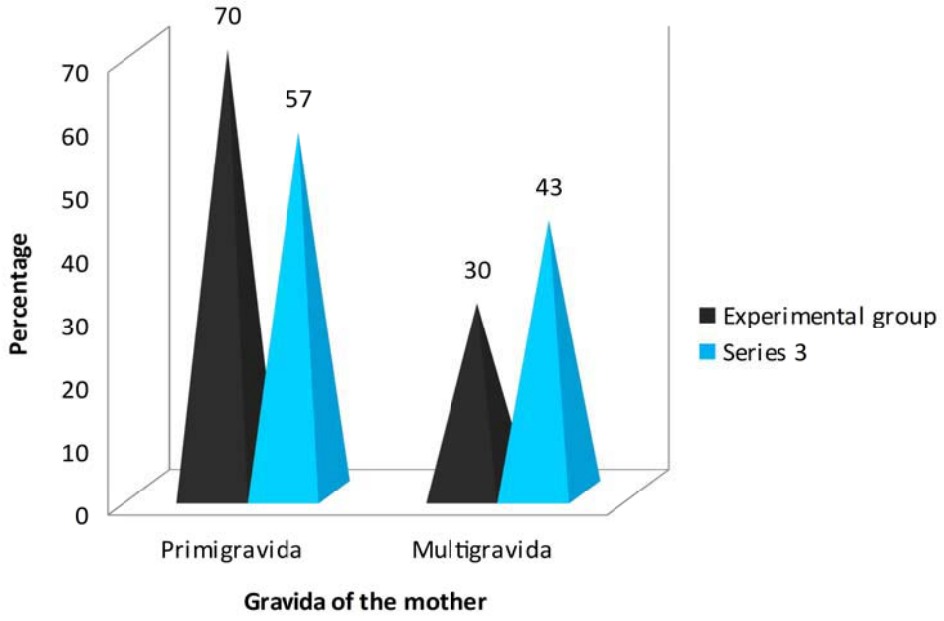


Fig 6: Percentage distribution of samples according to gravidaof mother

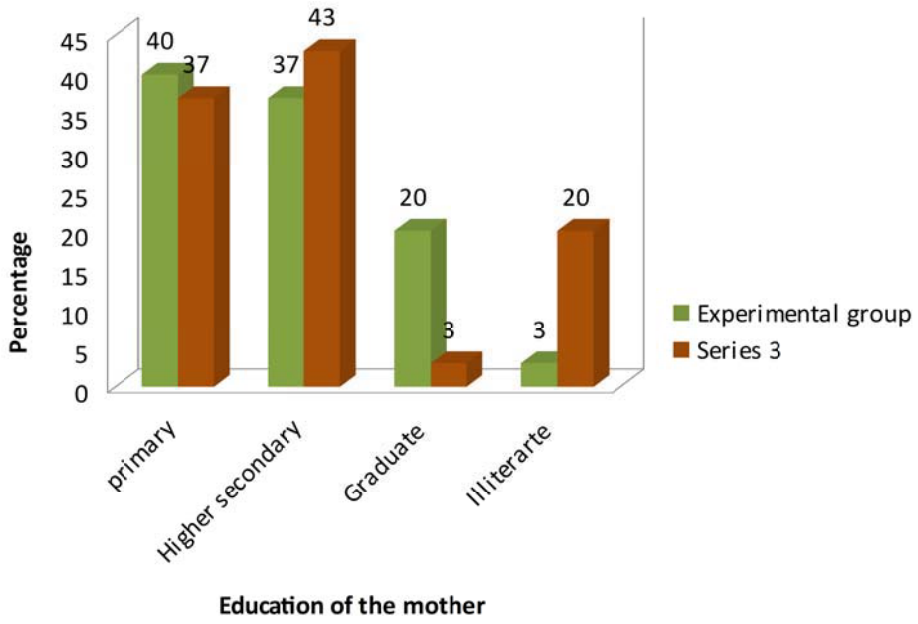


Fig 7 : Percentage distribution of samples according to education ofmother

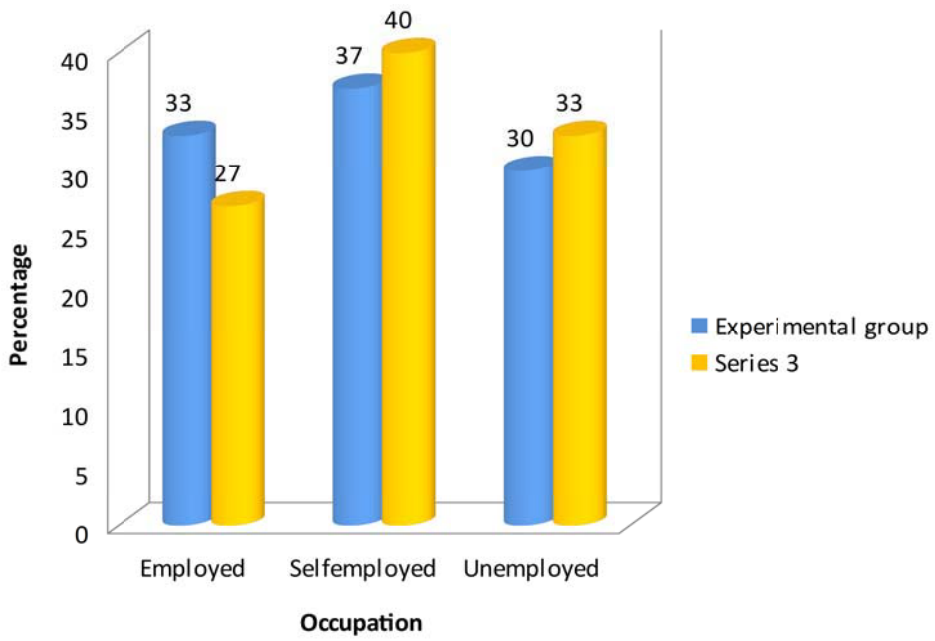


Fig 8: Percentage distribution of samples according to occupation

Table: 2

Frequency and percentage distribution of variables of the newborn babies

N=30

S.NO	Variables for the baby	Experimental group		Control group	
		Frequency (n)	**Percentage (%)**	**Frequency (n)**	**Percentage (%)**
1.	**Age of the baby** a) 1st day b) 2nd-3rd day c) 4th-5th day	10 11 9	33 37 30	8 12 10	27 40 33
2.	**Sex of the baby** a) Male b) Female	21 9	70 30	17 13	57 43
3.	**Weight of the baby** a) 2-2.5kg b) 2.5-3kg c) Above 3 kg	9 13 8	30 43 27	8 15 7	27 50 23
4.	**Gestational weeks at birth** a) 37-38 week b) 39-40 week	12 18	40 60	16 14	53 47
5.	**Head circumference of the baby** a) 32.5 cm-34 cm b) 34.5 cm-36 cm	13 8	43 27	17 13	57 43

Table 2 depicts the frequency and percentage distribution of variables of the baby with respect to the age of the baby, sex of the baby, weight of the baby, gestational weeks of the baby, head circumference of the baby.

In the experimental group, 10(33%) were belongs to 1st day of birth, 11(37%) were belongs to 2nd-3rd day of birth, 9(30%) were belongs to 4th-5th day of birth, and 8(27%) were belongs to 1st day of birth,12(40%) were belongs to 2nd-3rd day of birth,10(33%) were belongs to 4th-5th day of birth in the control group.

With regard to the sex of the baby, 21(70%) were males, 9(30%) were females in the experimental group and 17 (57%) were males, 13(43%) were females in the control group.

With regard to weight of the baby, 9(30%) were belongs to 2-2.5kg of weight, 13(43%) were belongs to 2.5-3 kg of weight, 8(27%) were have above 3 kg of weight in the experimental group and 8(27%) were belongs to 2-2.5kg of weight,15(50%) were belongs to3 kg of weight,7(23%)were have above 3kg of weight in the control group.

.

In relation to the gestational weeks at birth, 12(40%) were within 37-38 week,18(60%) were within 39-40 weeks in the experimental group and 16(53%) were within 37-38 weeks,14(47%) were within 39-40 weeks in the control group.

With regard to the head circumference of the baby13(43%) were belongs to 32.5cm-34 cm, 8(27%) were belongs to 34.5cm-36cm in the experimental group, and 17(57%) were belongs to 32.5cm-34 cm, 13(43%) were belongs to 34.5cm-36cm in the control group.

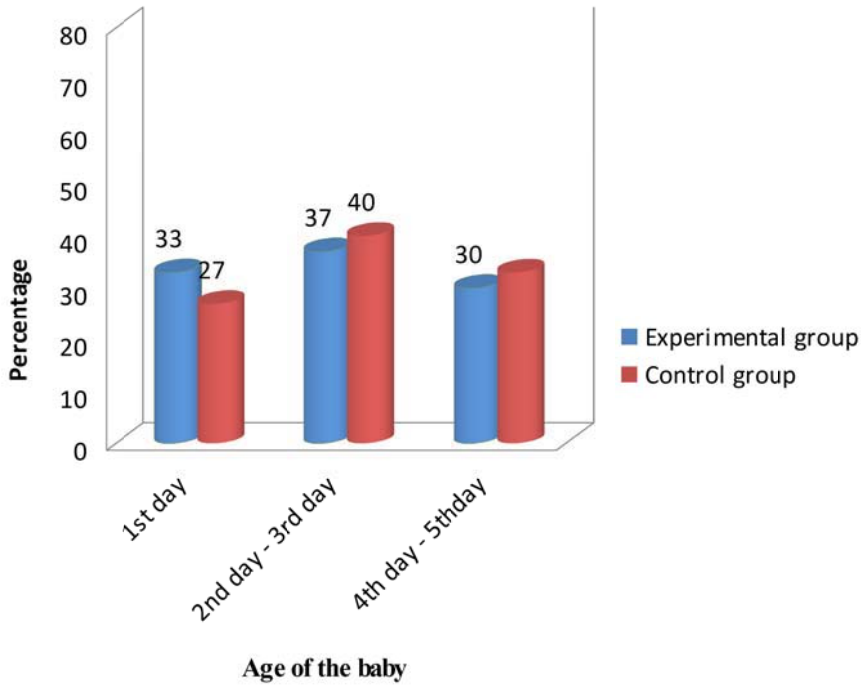


Fig 9 : percentage distribution of samples according to age of the baby

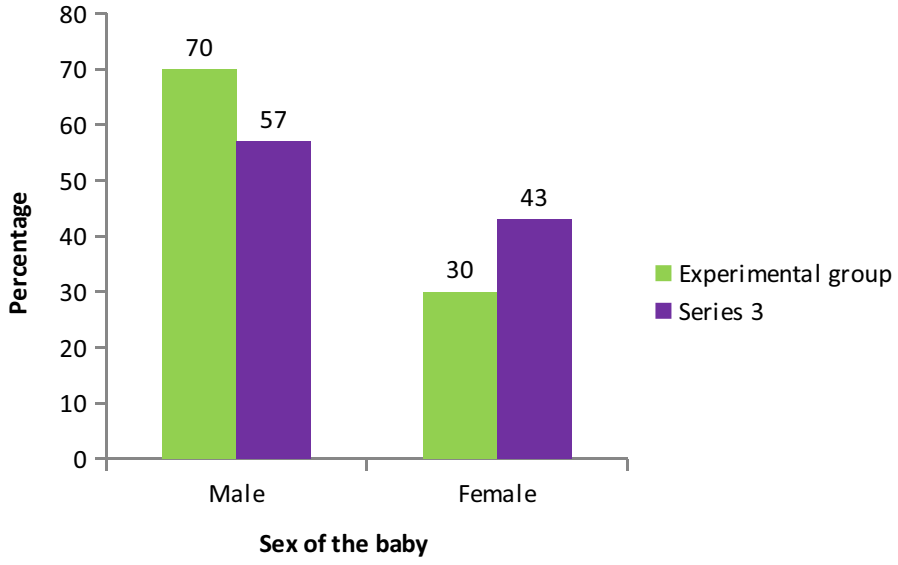


Fig 10: Percentage distribution of samples according to sex of the baby

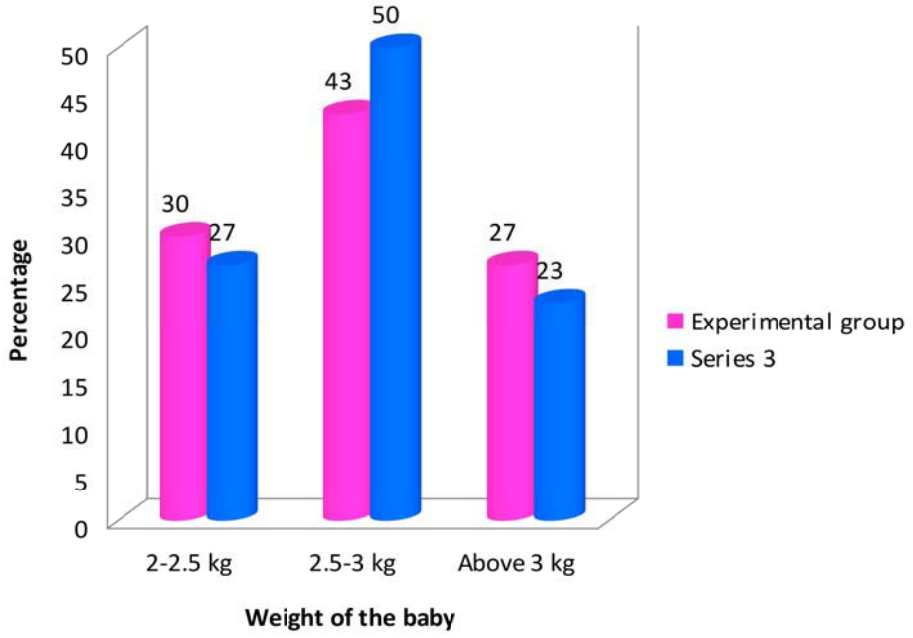


Fig 11: Percentage distribution of samples according to weight of the baby

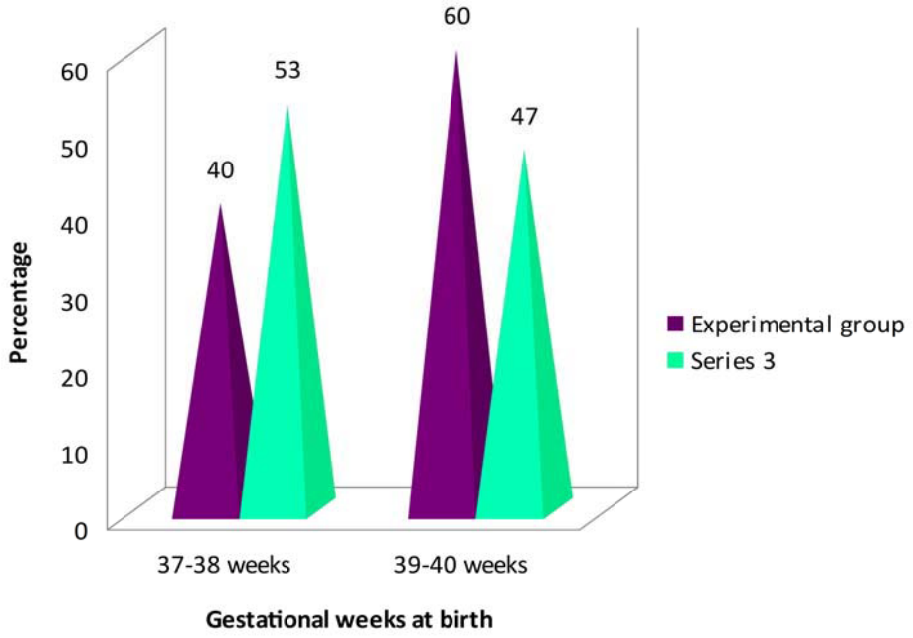


Fig12 : Percentage distribution of samples according to gestational weeks at birth

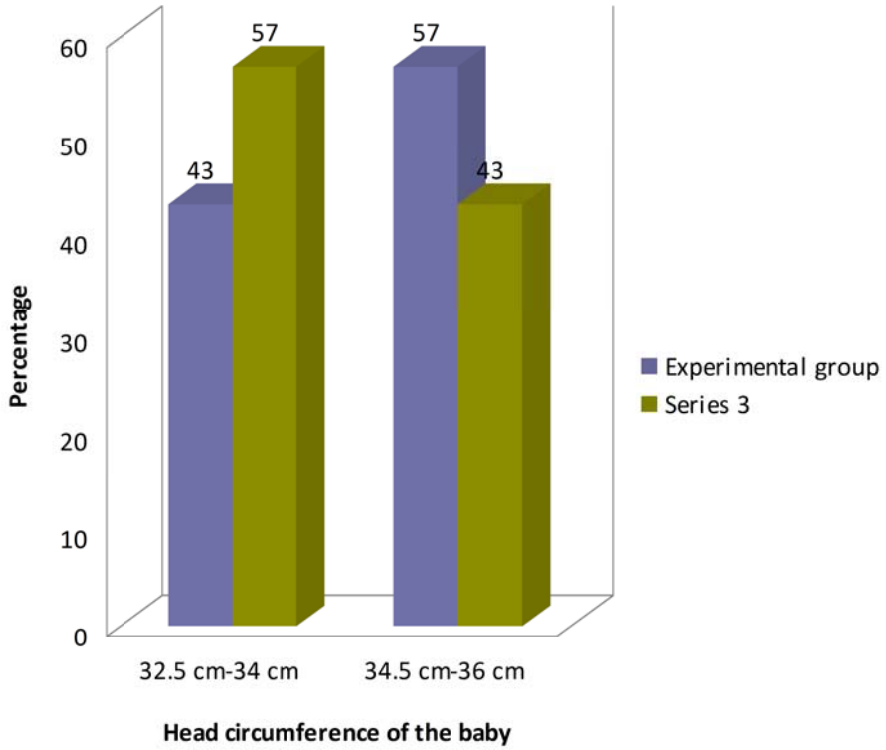


Fig13: Percentage distribution of samples according to the head circumference of the baby

SECTION II: ASSESSMENT OF HEALTH STATUS OF THE NEW BORN BABIES OF LSCS MOTHERS AMONG THE EXPERIMENTAL AND CONTROL GROUP.

Table: 3

Frequency and percentage distribution of pre-test and post-test level of behavioral changes in the experimental

N=30

Brazelton Behavioral Assessment Scale	Pre test		Post test	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
None	-	-	11	36.67
Mild	5	16.67	12	40
Moderate	12	40	7	23.33
Extreme	13	43.33	-	-

Table 2 reveals the frequency and distribution of pre test and post test level of behavioral changes of experimental group.

Among 30 samples in the experimental group during pre test assessment, 5(16.67%) of babies have mild behavioral change, 12(40%) of babies experienced moderate behavioral change, 13(43.33%) were experienced extreme behavioral change, during post assessment 11(36.67%) were experienced no behavioral change, 12(40%) were experienced mild behavioral change 7(23.33%) experienced moderate behavioral change.

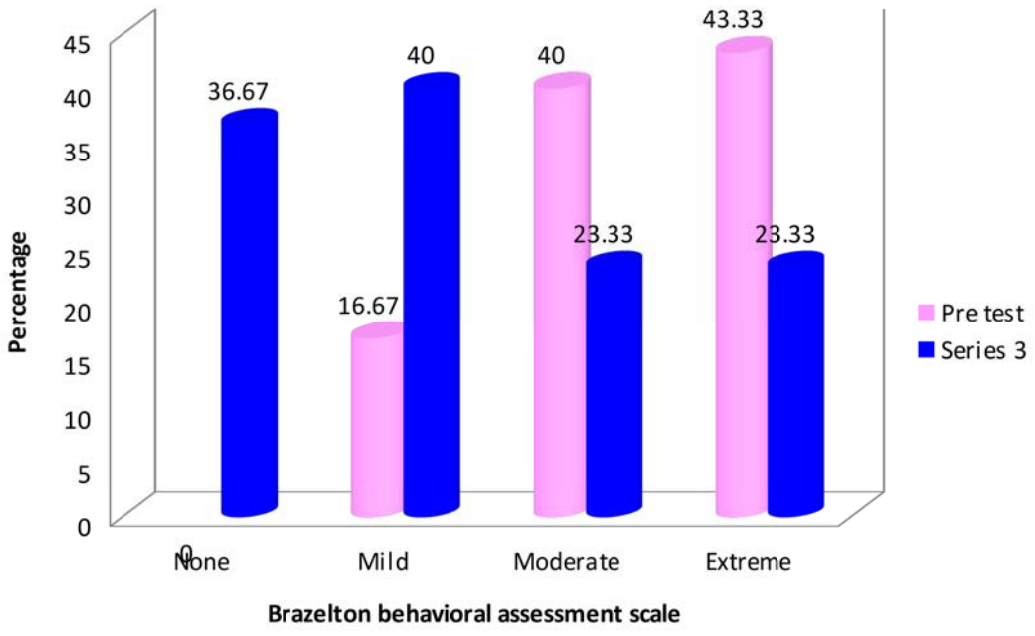


Fig14:Frequency and percentage distribution of pre and post test level of behavioral change in experimental group

Table: 4

Frequency and percentage distribution of pre-test and post-test level of behavioral changes in the control group.

N=30

Brazelton Behavioral Assessment Scale	Pre test		Post test	
	Frequency(f)	Percentage (%)	Frequency(f)	Percentage (%)
None	-	-	-	-
Mild	9	30	12	40
Moderate	10	33.33	7	23.33
Extreme	11	36.67	11	36.67

Table. 3reveal the frequency and distribution of pre test and post test level of behavioral changes of control group.

Among 30 samples in the control group during pre test assessment, 9(30%) of babies have mild behavioral change, 10(33.33%) of babies experienced moderate behavioral change, 11(36.67%) were experienced extreme behavioral change, during post

assessment 12(40%) were experienced mild behavioral change, 7(23.33%) were experienced moderate behavioral change 11(36.67%) experienced extreme behavioral change.

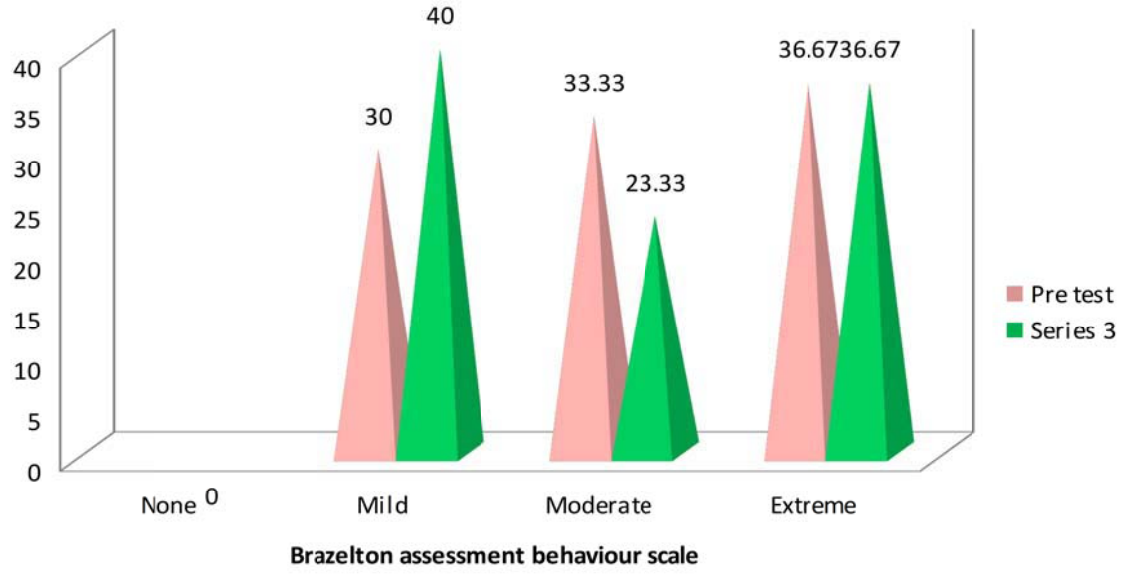


Fig15:Frequency and percentage distribution of pre and post test level of behavioral changes in control group.

Table. 5

Mean and standard deviation of pre test level of behavioral change of babies between the experimental and control group.

N=60

S,No.	Characteristics	Experimental Group	Control Group
1,	Mean	4.27	4.03
2,	Standard deviation	0.84	0.98

Table .4 reveals the mean and standard deviation of the pre test level of behavioral change of babies of mother between experimental and control group.

With respect to the mean score of experimental group before intervention is 4.2 and the mean score of control group is 4.03 and the standard deviation of experimental group is 0.84 and the control group's standard deviation is 0.98, where comparing the results shows no changes and differences in the pre test interpretations.

Table: 6

Mean and standard deviation of post test level of behavioral change of babies between the experimental and control group.

N=60

S,No.	Characteristics	Experimental Group	Control Group
1,	Mean	0.87	4.13
2,	Standard deviation	0.78	0.75

Table .5.reveals the mean and standard deviation of the post test level of behavioral change of babies between experimental and control group.

With respect to the mean score of experimental group before intervention is 0.87 and the mean score of control group is 9.4 and the standard deviation of experimental group was reduced(0.78) from the pre test score and the control group's standard deviation is 0.91, which shows no changes in the behavior of the control group.

SECTION III : COMPARISION OF PRE TEST LEVEL OF BEHAVIOURAL CHANGE BETWEEN EXPERIMENTAL AND CONTROL GROUP OF MOTHERS.

Table:7

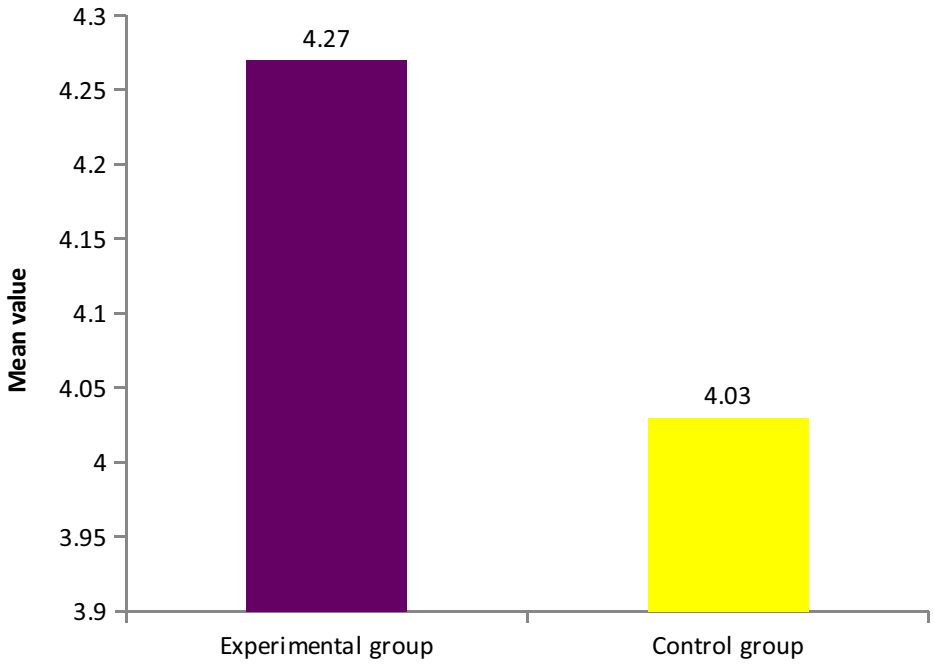
Comparison of pre test level of behavioral change between experimental and control group of LSCS mothers N=60

S,No.	Group	Mean	Standard deviation	"t" value
1	Experimental	4.27	0.84	1.09 NS
2	Control	4.03	0.98	

***P<0.001 **P<0.01 *P<0.05 NS – Non Significant

Table 6 reveals the unpaired "t" test to compare the pre test level of behavioral change between the experimental and control group of LSCS mother

With regard to the pre test level of behavioral change between experimental and control group of LSCS mothers , it was found that "t" value was 1.09 indicating that there is no significant difference in pre test level of behavioral change between the experimental and control group of LSCS mother at p<0.05 level.



Mean value of pre test

Fig16 .Pre test mean of behavioral changes between experimental and control group

SECTION IV: COMPARISION OF POST TEST LEVEL OF BEHAVIOURAL CHANGE BETWEEN EXPERIMENTAL AND CONTROL GROUP OF LSCS MOTHERS.

Table:8

Comparison of post test level of behavioral change between experimental and control group **N=60**

S,No.	Group	Mean	Standard deviation	"t" value
1	Experimental	0.87	0.78	18.11* S
2	Control	4.13	0.75	

***P<0.001 **P<0.01 *P<0.05 S –Significant

Table. 7. reveals the unpaired "t" test to compare the post test level of behavioral change between the experimental and control group

With regard to the post test level of behavioral change between experimental and control group of mothers , it was found that "t" value was 18.11 indicating that there is a significant difference in post test level of behavioral change between the experimental and control group of LSCS mother at $p<0.05$ level.

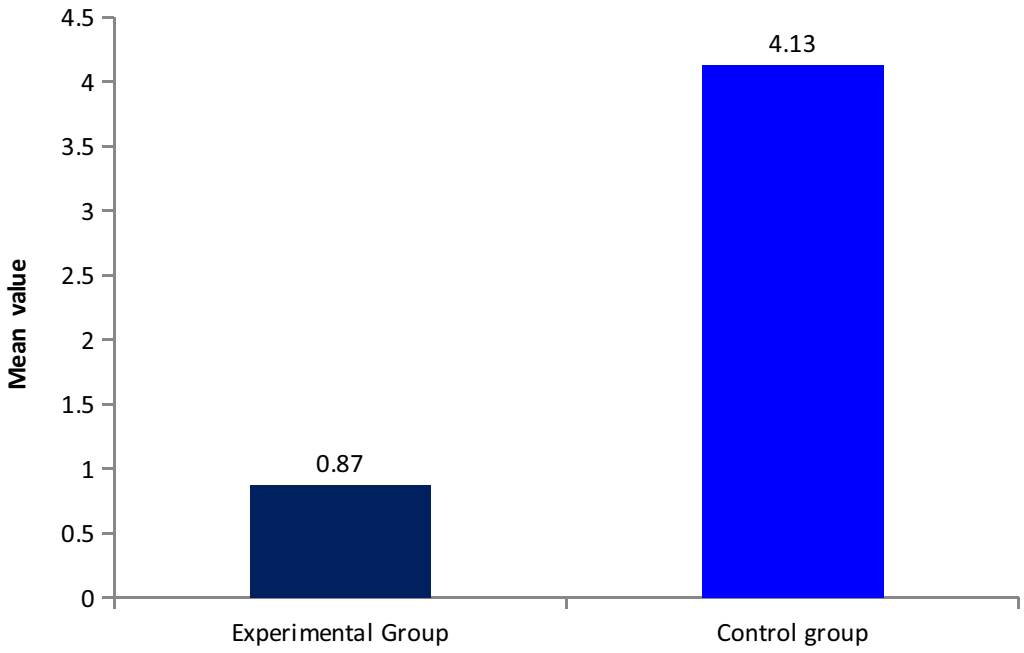


Fig17 .Post test mean of behavioral changes between experimental and control group

.

SECTION V: COMPARISION OF PRE AND POST TEST LEVEL OF BEHAVIOURAL CHANGE FOR BOTH EXPERIMENTAL AND CONTROL GROUP.

Table: 9

Comparison of pre and post test level of behavioral change of experimentalgroup

N=30

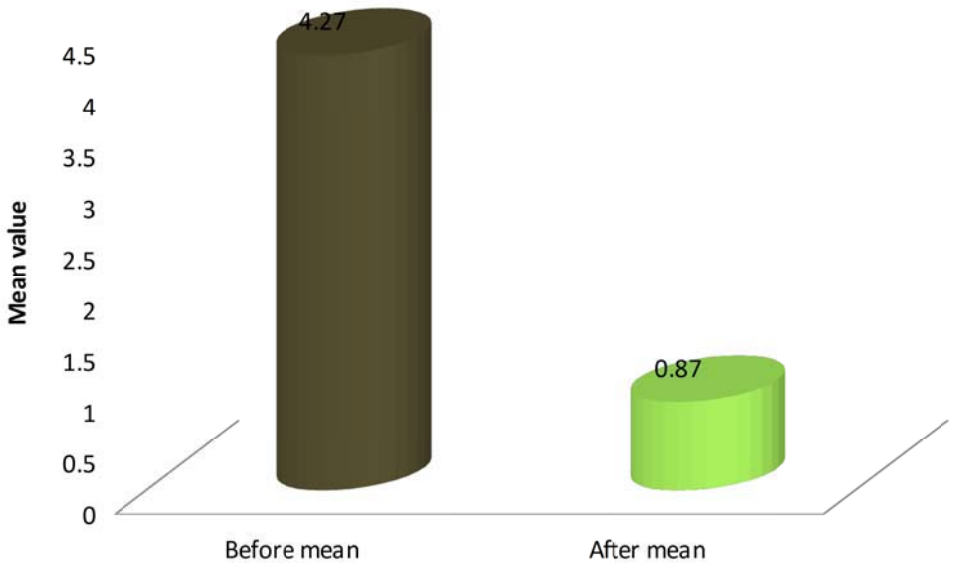
S,No.	Assessment Characteristics	Mean	Standard deviation	"t" value
1,	Pre test	4.27	0.84	17*
2,	Post test	0.87	0.78	S

***P<0.001 **P<0.01 *P<0.05 S –Significant

Table. 8. Reveals the unpaired "t" test to compare the pre andpost test level of behavioral change between the experimental and control group of LSCS mothers.

With regard to the pre test level of experimental group and their mean is 4.27 and standard deviation is 0.84 and the post test level of mean is 0.87 and their standard deviation is 0.78. When comparing the pre and post test the "t" value is 17, indicating that there is a significant difference between the pre and post test level of behavioral change among experimental group at $p<0.05$ level of significance.

It is inferred that the massage was effectively improving the behavioral change of babies with LSCS mothers.



Experimental group

Fig 18.Mean and standard deviation of pre test and post test level of behavioral changes for experimental group.

Table: 10

Comparison of pre and post test level of behavioral change of control group

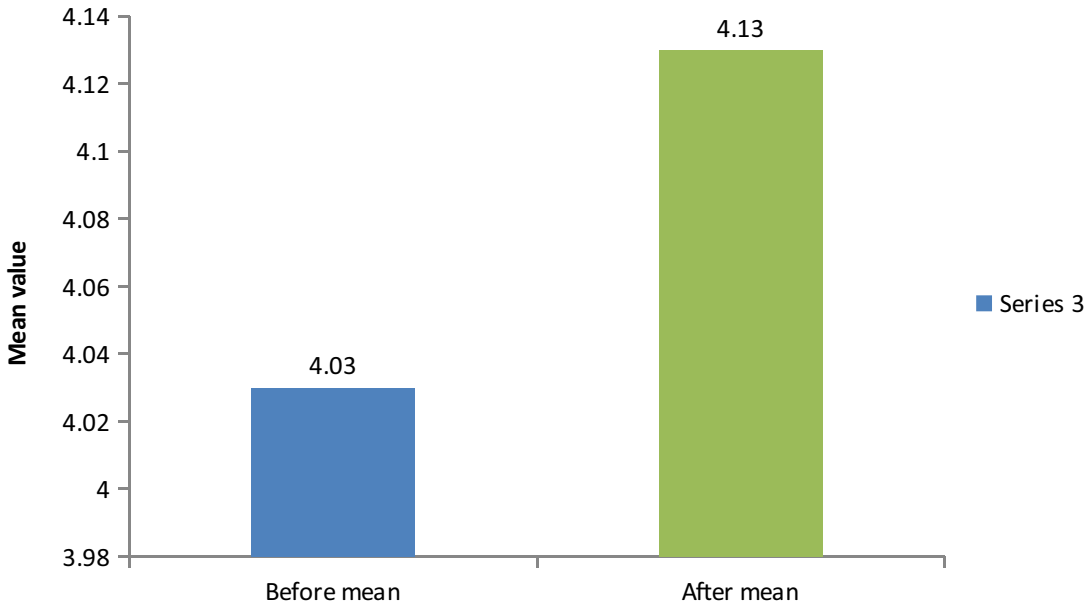
n=30

S,No.	Assessment Characteristics	Mean	Standard deviation	"t" value
1.	**Pre test**	**4.03**	**0.98**	**0.5***
2.	**Post test**	**4.13**	**0.75**	**NS**

***P<0.001 **P<0.01 *P<0.05 NS –Non Significant

Table. 9 reveals the unpaired "t" test to compare the post test level of behavioral change between the experimental and control group

With regard to the pre test level of experimental group and their mean is 4.03and standard deviation is 0.98 and the post test level of mean is 4.13and their standard deviation is 0.75. When comparing the pre and post test the "t" value is 0.5, indicating that there is a no significant difference between the pre and post test level of behavioral change among experimental group at p<0.05 level of significance.



Control group

Fig19: Mean and standard deviation of pre test and post test level of behavioral change in control group.

SECTION V: ASSOCIATION OF THE POST TEST LEVEL OF BEHAVIOURAL CHANGE OF LSCS MOTHERS WITH THE DEMOGRAPHIC VARIABLES IN THE EXPERIMENTAL AND CONTROL GROUP.

Table 11

Association of demographic variables with behavioral change of LSCS mothers in experimental group N=30

S.No	Demographic Variables	Level of behavioral change								
		None		Mild		Moderate		Extreme		
		f	%	f	%	f	%	f	%	
1.	Age a) 21-25 years b) 26-30 years c) 31-35 years	6 2 1	20 13.3 3	4 2 2	13.3 3 6.66	3 2 3	10 6.66 10	- - -	- - -	2.58* df=15 NS
2.	Religion a) Hindu b) Christian c) Muslim d) Others	2 2 1 1	6.66 6.66 3.33 3.33	1 2 2 2	3.33 6.66 6.66 6.66	2 1 1 1	6.66 3.33 3.33 3.33	- - - -	- - - -	2.31* Df=15 NS
3	Gravida a) Primi b) Multi c)	2 4	6.66 13.3	3 5	10 16.6	1 6	3.33 20	- -	- -	1.28* DF=10 NS
4.	Education of the mother a) Basic b) Secondary c) Tertiary d) No education	3 3 4 1	10 10 13.3 3	2 3 1 -	6.66 10 3.33 -	3 2 2 -	10 6.66 6.66 -	- - - -	- - - -	1.86* df=10 NS

5.	Occupation a) Private b) Government c) Unemployed	- 6 4	- 20 13.3	- 3 2	- 10 6.66	- 2 5	- 6.66 16.6	- - -	- - -	11.25 * Df=8 NS

***P<0.001 **P<0.01 *P<0.05 NS –Non Significant

Table: 11 shows that the association of demographic variables like age, religion, gravidaof the mother, education of the mother. occupation of the baby are not having any association for patients with mother having no behavioral changes in the experimental groups ($p<0.05$). Without any criterion features massage therapy can be used for any group or sex etc. Hence, the research hypothesis H2 was rejected.

Table 12

Association of demographic variables with behavioral change of newborn in experimental group

N=30

1.	Age of the baby									2.31*
	a) 1st day	4	13.3	5	16.6	3	6.66	-	-	DF=5
	b) 2nd-3rd day	3	3	1	3.33	2	3.33	-	-	NS
	c) 4th-5th day	5	10	3	10	1	6.66	-	-	
2.	Sex of the baby									
	a) Male	2	6.66	3	10	1	3.33	-	-	
	b) Female	4	13.3	5	16.6	6	20	-	-	
3.	Weight of the baby									6.83*
	a) 2-2.5kg	5	16.6	1	3.33	3	10	-	-	DF=1
	b) 2.5-3kg	6	20	3	10	5	16.6	-	-	Ns
	c) Above 3 kg	7	23.3	-	-	4	13.3	-	-	
4.	Gestational week of the baby									6.83*
	a) 37-38 week	2	6.66	2	6.66	2	6.66	-	-	DF=1
	b) 39-40 week	4	13.3	2	6.66	3	10	-	-	NS
5.	Head circumference of the baby									6.57*
	a) 32.5 cm-34 cm	2	6.66	1	3.33	2	6.66	-	-	Df=8
	b) 34.5 cm-36 cm	2	6.66	2	6.66	1	3.33	-	-	NS

***P<0.001 **P<0.01 *P<0.05 NS –Non Significant

Table .11 shows that the association of demographic variables like age of the baby, sex of the baby, weight of the baby ,gestational weeks of the baby, gestational weeks at birth and head circumference of the baby are not having any association for patients with mother having no behavioral changes in the experimental groups ($p<0.05$). Without any criterion features massage therapy can be used for any group or sex etc. Hence, the research hypothesis H2 was rejected.

Table 13

Association of demographic variables with behavioral change of mothers in control groupN=30

S.No	Demographic Variables of the mother	Level of behavioral change								
		None		Mild		Moderate		Extreme		
		f	%	f	%	f	%	f	%	
1.	Age									
	a) 21-25 years	6	20	2	6.66	3	10	-	-	6.83*
	b) 26-30 years	4	13.33	2	6.66	2	6.66	-	-	df=15
	c) 31-35 years	-		4	13.3	3	10	-	-	NS
2	Religion									
	1) Hindu	5	16.6	1	3.33	3	10	-	-	3.5*
	2) Christian	6	20	3	10	5	16.6	-	-	Df=1
	3) Muslim	7	23.3	-	-	4	13.3	-	-	5 NS
3.	Gravida									1.28*
	a) Primi	2	6.66	3	10	1	3.33	-	-	DF=1
	b) Multi	4	13.3	5	16.6	6	20	-	-	0 NS
4.	Education of the mother									
	a) Basic	33	10	2	6.66	3	10	-	-	1.86*
	b) Secondary	4	10	6	20	2	6.66	-	-	df=10
	c) Tertiary	1	13.3	1	3.33	2	6.66	-	-	NS
	d) No education		3.33	-	-	-	-	-	-	

5.	Occupation a. Private b. Governm ent c. Unemplo yed	6 4	20 13.3	3 2	10 6.66	2 5	6.66 16.6	- -	- -	11.25 * Df=8 NS

***P<0.001 **P<0.01 *P<0.05 NS –Non Significant

Table.11 shows that the association of demographic variables like age, religion, gravidaof the mother, education of the mother. occupation of the baby are not having any association for patients with behavioral change in the control groups (p<0.05). Hence , the research hypothesis H2 was rejected.

Table 14

Association of demographic variables with behavioral change ofnewborn babies in control group

N=30

S.NO	Demographic variables of the newborn babies	Level of behavioral change				
		None	Mild	Moderate	severe	

		f	%	f	%	f	%	f	%	
1.	Age of the baby a) 1st day b) 2nd-3rd day c) 4th-5th day	4 3 5	13.33 10	5 1 3	16.6 3.33 10	3 2 1	6.66 3.33 6.66	- - - -	- - - -	1.68* DF=5 NS
2.	Sex of the baby a) Male b) Female	2 4	6.66 13.3	3 5	10 16.6	1 6	3.33 20	- -	- -	3.5* Df=6 NS
3.	Weight of the baby a) 2-2.5kg b) 2.5-3kg c) Above 3 kg	5 6 7	16.6 20 23.3	1 3 -	3.33 10 -	3 5 4	10 16.6 13.3	- - -	- - -	6.83* DF=10 Ns
4.	Gestational week of the baby a) 37-38 week b) 39-40 week	2 4	6.66 13.3	2 2	6.66 6.66	2 3	6.66 10	- -	- -	11.25* DF=10 Ns
5.	Head circumference of the baby a) 32.5 cm-34 cm b) 34.5 cm-36 cm	2 2	6.66 6.66	1 2	3.33 6.66	2 1	6.66 3.33	- -	- -	6.57* Df=8 NS

***P<0.001 **P<0.01 *P<0.05 NS –Non Significant

Table.11 shows that the association of demographic variables like age of the baby, sex of the baby ,weight of the baby, gestational weeks of the baby, gestational weeks at birth and head circumference of the baby are not having any association for patients with

behavioral change in the control groups ($p<0.05$). Hence , the research hypothesis H2was rejected.

CHAPTER – V
DISCUSSION

The study was undertaken to assess the effectiveness of massage theraphy on Behavioural response of newborn delivered by LSCS mother in selected hospitals at Nagercoil. Pre experimental design was adopted with one group pretest

To assess the health status of the newborn delivered by LSCS mother in experimental and control group.

Among 30 samples in the experimental group during pre test assessment, 5(16.67%) of babies have mild behavioral change, 12(40%) of babies experienced moderate behavioral change, 13(43.33%) were experienced extreme behavioral change,

during post assessment 11(36.67%) were experienced no behavioral change, 12(40%) were experienced mild behavioral change 7(23.33%) experienced moderate behavioral change.

Among 30 samples in the control group during pre test assessment, 9(30%) of babies have mild behavioral change, 10(33.33%) of babies experienced moderate behavioral change, 11(36.67%) were experienced extreme behavioral change, during post assessment 12(40%) were experienced mild behavioral change, 7(23.33%) were experienced moderate behavioral change 11(36.67%) experienced extreme behavioral change

Smith (2011) was conducted a double blinded randomized control trial to evaluate the effect of massage with coconut oil on weight gain in preteen and term newborns. 73 newborns were randomly assigned to 3 groups. The weights of the newborns in all 3 groups were measured daily by a nurse who was blinded to the study. the results showed that there was a significant different between the weight gain in the 3 groups after the intervention and hence concluded that, massage with coconut oil has positive effect on weight gain in newborn.

The second objective of the study was to determine the effectiveness of the massage therapy of newborn delivered by LSCS mother in experimental group.

With respect to the mean score of experimental group before intervention is 0.87 and the mean score of control group is 9.4 and the standard deviation of experimental group was reduced(0.78) from the pre test score and the control group's standard deviation is 0.91, which shows no changes in the behavior of the control group. it was found that "t" value was 18.11 indicating that there is a significant difference in post test level of behavioral change between the experimental and control group of LSCS mother at $p<0.05$ level. The finding of the study shown that coconut oil massage therapy is effective in improving health status of the newborn delivered by LSCS mother.

Rubina(2012)was conducted a to assess the effect of oil massage on growth and health status in newborn babies delivered by LSCS mother, New Delhi. Eligible neonates were randomised to one of the three groups (a) Massage with oil (b) Massage with out oil (c) No massage. Weight, length, head circumference and triceps skin fold thickness were measured in the three groups at the regular intervals serum triglycerides levels were measured at enrolment and at completion. Behavioural status of the newborn was assessed using Brazelton's neonatal behaviour assessment scale at enrolment and 7 days of intervention. Results showed that weight gain in the oil massage group was higher compared to the only massage group and no massage group. This difference and the difference in other anthropometric parameters were not statically significant. Serum triglycerides and neonatal neurobehaviour were comparable in the three groups. The study concluded that oil application may have a potential to improve weight gain among neonates.

To find out the association between massage therapy and Behavioural response of the newborn with respect to their selected variables in the experimental and control group.

There was a significant improvement in health status of the newborn delivered by LSCS mother and there was no association between the age of the mother, gravid of the mother, education of the mother, occupation of the mother, previous knowledge regarding oil massage at $p>0.05$

Therewas no association between the variables such as age of the baby, sex of the baby, weight of the baby, gestational age of the baby, head circumference of the baby $p>0.05$

CHAPTER VI
SUMMARY IMPLICATIONS AND RECOMMENDATIONS

This chapter deals with summary of the study findings, recommendations and limitations, which create a base for evidence base d practice drawn from the study. It also explains the implications of the study, for different areas like nursing education, nursing administration, nursing practice and nursing research.

Summary

This study was conducted to find out the effectiveness of coconut oil massage for the Behavioural response of the newborn delivered by LSCS mother at Nagercoil.

The objectives of the study were

1. To assess the health status of the newborn delivered by LSCS mother in experimental and control group.
2. To determine the effectiveness of the massage therapy of newborn delivered by LSCS mother in experimental group.
3. To find out the association between massage therapy and Behavioural response of the newborn with respect to their selected variables in the experimental and control group.

Hypothesis of the study were,

H1: There will be significant difference between the pre and post test level of health status among newborns delivered by LSCS mothers in the experimental and control group.

H2: There will be a significant association between the pretest level of health status among newborns delivered by LSCS mother with their selected variables in experimental and control group.

The study was undertaken to assess the effectiveness of coconut oil massage therapy for the Behavioural response of newborn delivered by LSCS mother. Descriptive research approach was used for the study. Quasi experimental pre test and post test design was used for the study. The study was conducted among newborn delivered by LSCS mother in Flemy grace hospital at Thickanomcode, Nagercoil. Purposive sampling was adopted for the study.

Data collection was done using Modified Brazelton Neonatal Scale. Coconut oil massage therapy was given for the experimental group. The data gathered were analyzed by descriptive and inferential statistics and interpretation was done on the basis of the objectives of the study.

Study findings

Data were collected from the 60 neonates regarding the behavioral status. The findings revealed that, there was highly significant difference in behavioral level among newborns who had undergone coconut oil massage therapy. Post test result revealed that the pre test level of experimental group and their mean is 4.27 and standard deviation is 0.84 and the post test level of mean is 0.87 and their standard deviation is 0.78. When comparing the pre and post test the "t" value is 17, indicating that there is a significant difference between the pre and post test level of behavioral change among experimental group at $p<0.05$ level of significance. Hence the research hypothesis was accepted and it was inferred that the massage was effectively improving the behavioral change of babies with LSCS mothers.

NURSING IMPLICATIONS

Investigator has derived the following implications that are of vital concern in the field of nursing practice, nursing education, nursing administration and nursing research. By assessing the effectiveness of coconut oil massage, we can understand that the mothers having the poor knowledge regarding the massage therapy. So it is very essential to take different strategies in order to improve the knowledge of the LSCS mothers regarding massage therapy irrelevant to all areas of nursing field.

NURSING PRACTICE

- Nurses can create opportunity to talk about coconut oil massage therapy to LSCS mothers
- Community health nursing can give attention towards newborn babies in the community and instruct the mothers regarding the importance of coconut oil massage.
- Nurse can give counseling to the mothers regarding the massage therapy whenever possible.

NURSING EDUCATION

- Nurse educator not only has the role to educate the students but also to educate the staff nurses who are working in the bedside regarding the massage therapy of newborn.
- Nursing curriculum should ensure the importance of massage therapy for improving the health status of the newborn.
- Maternal health education can also be given to the mothers regarding the massage therapy of the newborn.

NURSING RESEARCH

- Nurse researcher should disseminate the findings of the study through conference, seminar and publishing in professional journals to the nursing staff.
- The findings of the research study will help in building and strengthening the knowledge regarding the massage therapy.
- Evidence based nursing practice must take higher profile in order to improve the knowledge regarding massage therapy among LSCS mother.

NURSING ADMINISTRATION

- Nursing administrator should plan and implement collaborative training programme on the basis of coconut oil massage therapy among LSCS mothers involving health team members.
- Nurse administrator can prepare protocol regarding massage therapy and its health benefits.
- The nurse administrator should encourage the students and staff members to actively participating seminars, workshop and conferences regarding various therapies to improve the health status of the newborn.

LIMITATIONS

- Purposive sampling was used
- The sample size is 60
- The data collection period was only 4 weekThestudy was limited only to the newborns delivered by LSCS in selected hospitals at Nagercoil.

RECOMMENDATIONS

- Similar study can be replicated on a large group.
- A comparative study can be conducted to evaluate the effectiveness of coconut oil and sunflower oil to improve the health status of the newborn delivered by LSCS mothers.
- A study can conduct to evaluate the knowledge of LSCS mothers regarding the coconut oil massage therapy.

CHAPTER – V
DISCUSSION

The study was undertaken to assess the effectiveness of massage theraphy on health promotion of newborn delivered by LSCS mother in selected hospitals at Nagercoil. Pre experimental design was adopted with one group pretest

To assess the health status of the newborn delivered by LSCS mother in experimental and control group.

Among 30 samples in the experimental group during pre test assessment, 5(16.67%) of babies have mild behavioral change, 12(40%) of babies experienced moderate behavioral change, 13(43.33%) were experienced extreme behavioral change, during post assessment 11(36.67%) were experienced no behavioral change, 12(40%) were experienced mild behavioral change 7(23.33%) experienced moderate behavioral change.

Among 30 samples in the control group during pre test assessment, 9(30%) of babies have mild behavioral change, 10(33.33%) of babies experienced moderate behavioral change, 11(36.67%) were experienced extreme behavioral change, during post assessment 12(40%) were experienced mild behavioral change, 7(23.33%) were experienced moderate behavioral change 11(36.67%) experienced extreme behavioral change

Smith (2011) was conducted a double blinded randomized control trial to evaluate the effect of massage with coconut oil on weight gain in preteen and term newborns. 73 newborns were randomly assigned to 3 groups. The weights of the newborns in all 3 groups were measured daily by a nurse who was blinded to the study. the results showed that there was a significant different between the weight gain in the 3 groups after the intervention and hence concluded that, massage with coconut oil has positive effect on weight gain in newborn.

The second objective of the study was to determine the effectiveness of the massage therapy of newborn delivered by LSCS mother in experimental group.

With respect to the mean score of experimental group before intervention is 0.87 and the mean score of control group is 9.4 and the standard deviation of experimental group was reduced(0.78) from the pre test score and the control group's standard deviation is 0.91, which shows no changes in the behavior of the control group. it was found that "t" value was 18.11 indicating that there is a significant difference in post test level of behavioral change between the experimental and control group of LSCS mother at $p<0.05$ level. The finding of the study shown that coconut oil massage therapy is effective in improving health status of the newborn delivered by LSCS mother.

Rubina(2012) was conducted a to assess the effect of oil massage on growth and health status in newborn babies delivered by LSCS mother, New Delhi. Eligible neonates were randomised to one of the three groups (a) Massage with oil (b) Massage with out oil (c) No massage. Weight, length, head circumference and triceps skin fold thickness were measured in the three groups at the regular intervals serum triglycerides levels were measured at enrolment and at completion. Behavioural status of the newborn was assessed using Brazelton's neonatal behaviour assessment scale at enrolment and 7 days of intervention. Results showed that weight gain in the oil massage group was higher compared to the only massage group and no massage group. This difference and the difference in other anthropometric parameters were not statically significant. Serum triglycerides and neonatal neuro behaviour were comparable in the three groups. The study concluded that oil application may have a potential to improve weight gain among neonates.

To find out the association between massage therapy and health promotion of the newborn with respect to their selected variables in the experimental and control group.

There was a significant improvement in health status of the newborn delivered by LSCS mother and there was no association between the age of the mother, gravid of the mother, education of the mother, occupation of the mother, previous knowledge regarding oil massage at $p>0.05$

There was no association between the variables such as age of the baby, sex of the baby, weight of the baby, gestational age of the baby, head circumference of the baby $p>0.05$

CHAPTER VI

SUMMARY IMPLICATIONS AND RECOMMENDATIONS

This chapter deals with summary of the study findings, recommendations and limitations, which create a base for evidence base d practice drawn from the study. It also explains the implications of the study, for different areas like nursing education, nursing administration, nursing practice and nursing research.

Summary

This study was conducted to find out the effectiveness of coconut oil massage for the health promotion of the newborn delivered by LSCS mother at Nagercoil.

The objectives of the study were

1. To assess the health status of the newborn delivered by LSCS mother in experimental and control group.
2. To determine the effectiveness of the massage therapy of newborn delivered by LSCS mother in experimental group.
3. To find out the association between massage therapy and health promotion of the newborn with respect to their selected variables in the experimental and control group.

Hypothesis of the study were,

H1: There will be significant difference between the pre and post test level of health status among newborns delivered by LSCS mothers in the experimental and control group.

H2: There will be a significant association between the pretest level of health status among newborns delivered by LSCS mother with their selected variables in experimental and control group.

The study was undertaken to assess the effectiveness of coconut oil massage therapy for the health promotion of newborn delivered by LSCS mother. Descriptive research approach was used for the study. Quasi experimental pre test and post test design was used for the study. The study was conducted among newborn delivered by LSCS mother in Flemy grace hospital at Thickanomcode, Nagercoil. Purposive sampling was adopted for the study.

Data collection was done using Modified Brazelton Neonatal Scale. Coconut oil massage therapy was given for the experimental group. The data gathered were analyzed by descriptive and inferential statistics and interpretation was done on the basis of the objectives of the study.

Study findings

Data were collected from the 60 neonates regarding the behavioral status. The findings revealed that, there was highly significant difference in behavioral level among newborns who had undergone coconut oil massage therapy. Post test result revealed that the pre test level of experimental group and their mean is 4.27 and standard deviation is 0.84 and the post test level of mean is 0.87 and their standard deviation is 0.78. When comparing the pre and post test the "t" value is 17, indicating that there is a significant difference between the pre and post test level of behavioral change among experimental group at $p<0.05$ level of significance. Hence the research hypothesis was accepted and it was inferred that the massage was effectively improving the behavioral change of babies with LSCS mothers.

NURSING IMPLICATIONS

Investigator has derived the following implications that are of vital concern in the field of nursing practice, nursing education, nursing administration and nursing research. By assessing the effectiveness of coconut oil massage, we can understand that the mothers having the poor knowledge regarding the massage therapy. So it is very essential to take different strategies in order to improve the knowledge of the LSCS mothers regarding massage therapy irrelevant to all areas of nursing field.

NURSING PRACTICE

- Nurses can create opportunity to talk about coconut oil massage therapy to LSCS mothers
- Community health nursing can give attention towards newborn babies in the community and instruct the mothers regarding the importance of coconut oil massage.
- Nurse can give counseling to the mothers regarding the massage therapy whenever possible.

NURSING EDUCATION

- Nurse educator not only has the role to educate the students but also to educate the staff nurses who are working in the bedside regarding the massage therapy of newborn.

- Nursing curriculum should ensure the importance of massage therapy for improving the health status of the newborn.
- Maternal health education can also be given to the mothers regarding the massage therapy of the newborn.

NURSING RESEARCH

- Nurse researcher should disseminate the findings of the study through conference, seminar and publishing in professional journals to the nursing staff.
- The findings of the research study will help in building and strengthening the knowledge regarding the massage therapy.
- Evidence based nursing practice must take higher profile in order to improve the knowledge regarding massage therapy among LSCS mother.

NURSING ADMINISTRATION

- Nursing administrator should plan and implement collaborative training programme on the basis of coconut oil massage therapy among LSCS mothers involving health team members.
- Nurse administrator can prepare protocol regarding massage therapy and its health benefits.
- The nurse administrator should encourage the students and staff members to actively participating seminars, workshop and conferences regarding various therapies to improve the health status of the newborn.

LIMITATIONS

- Purposive sampling was used
- The sample size is 60
- The data collection period was only 4 weekThe study was limited only to the newborns delivered by LSCS in selected hospitals at Nagercoil.

RECOMMENDATIONS

- Similar study can be replicated on a large group.

- A comparative study can be conducted to evaluate the effectiveness of coconut oil and sunflower oil to improve the health status of the newborn delivered by LSCS mothers.
- A study can conduct to evaluate the knowledge of LSCS mothers regarding the coconut oil massage therapy.

BIBLIOGRAPHY

BOOK

1. ElaineFogelSchneide.Touch Communication, the Power of Infant Massage. www.healthyfamily.org/cs/user/print/article/2.

2. B.Ramasundari and A. Judie. Effectiveness of massage therapy on newborns.Nightingale Nursing Times.Volume 5 Number4 .July 2009.

3. Anjali kulkarni. Jaya shankarkaushik. Piyushgupta.Harsh sharma and RK agrawal. Massage and Touch Therapy in Neonates: The Current Evidence. Indian Pediatrics Volume 47.September 17, 2010 .771-776.

4. TaliRayner .A review of the effect of massage in promoting physiological and neuropsychological health in mother and infant.*bso-web.bso.ac.uk/BSO-All/Library-public/...2010.../RaynerTali.doc.*

5. Karen Livingston. Shay Beider. Alexis J. Kant. Constance C. Gallardo. Michael H. Joseph. And Jeffrey I. Gold .Touch and massage for medically fragile infants. Advance Access Publication 6 August 2007. eCAM 2009 .6(4)473–482 6. Health and medicine encyclopaedia. Volume 14. http://health.stateuniversity.com/pages/828/Infant-Massage.html

6. Vickers A, Ohlsson A. Lacy J, Horsley A. Massage for promoting growth and development of preterm and/or low birth-weight infants. Cochrane Database of Systematic Reviews 2004.Issue 2. Art. No.: D000390.DOI:10.1002/14651858.CD000390.pub2.

7. Miguel A. Diego1. Tiffany Field1.And Maria Hernandez-Reif3. Temperature Increases in Preterm Infants during Massage Therapy. Infant BehavDev.2008 January.31(1):149–152.

8. Hernandez-Reif, M. Diego. M. & Field .T. (2007). Infant Behaviour & Development 30 .557-561.

9. Field T. (2001). Massage therapy facilitates weight gain in preterm infants. Current Directions in Psychological Science.10 .51-54.)

10. Tiffany Field. Maria Hernandez-Reif. Miguel Diego. Larissa Feijo.Yanexy Vera and Karla Gil Department of Pediatrics (D-820). FL 33101. USA Received 30 October 2003. Revised 9 February 2004. Accepted 18 March 2004. Available online 11 September 2004.

11. Scafidi. F.A. Field. T.M. Schanberg. S.M. Bauer. C.R. Tucci K. Roberts. J.Morrow. C. &Kuhn C.M. (1990). Massage stimulates growth in preterm infants: A replication. Infant Behaviour and Development. 13. 167-188

12. JyotiArora. Ajay Kumar and SiddharthRamji. Effect of oil massage on growth and Neurobehavior in very low birth weight preterm Neonates. Manuscript received: July 24. 2004. Indian Pediatrics. 2005. (42). November 17:1092-1100.

13. A.S.M NawshadUddin Ahmed, Samir k Saha, M.A.K Azad Chowdhury, Paul A Law, et al. acceptability of massage with skin barrier- enhancing emollients in young neonate in banladesh. J health populnatr 207, Jun; 25(2)236-40.

15. K shankaranarayanan, J.A. Mondkar, M.M Chauhan, B.M.Mascarenhas, A.R. Mainkar, R.Y. Salvi. Oil massage in neonates.Indian peadiatrics; 2005 (42) sept 17:877-884.

16. The Oxford compact English Dictionary. 2003. 1st edition. Dorling Kindersley Ltd. Britain. P: 200,291,780.

JOURNALS

1. Agarwal KN, Gupta A, Pushkarna R, Bhargava SK, Faridi MM, Prabhu MK. Effects of massage& use of oil on growth, blood flow & sleep pattern in infants.Indian J Med Res [Serial online] 2000 Dec; 112:212-7 [Cited 2011 Nov 8]; Available from http://www.ncbi.nlm.nih.gov/pubmed/11247199

2. Lahat S, Mimouni FB, Ashbel G, Dollberg S. Energy expenditure in growing preterm infants receiving massage therapy. J Am CollNutr [Serial online] 2007; 26: 356-359 [Cited 2011 Nov 27]; Available from http://medind.nic.in/ibv/t10/i9/ibvt10i9p771.pdf

3. John N.I.Dieter, Tiffany Field, Maria Hernandez-Reif, et al. Journal of PediatricPsychology. Vol.28. No.6. 2003. pp. 403-411.

4. John N.I.Dieter, Tiffany Field, Maria Hernandez-Reif, et al. Journal of PediatricPsychology. Vol.28. No.6. 2003. pp. 403-411.

5. A.S.M NawshadUddin Ahmed, Samir k Saha, M.A.K Azad Chowdhury, Paul A Law, et al. acceptability of massage with skin barrier- enhancing emollients in young neonate in banladesh. J health populnatr 207, Jun; 25(2)236-40.

6. Field. T. Schanberg. S. Davalos. M. &Malphurs. J. (1996).Perinatal Psychology Journal.11.75-80.

WEBSITES

1. Bond C. Positive Touch and massage in the neonatal unit: a British approach. Semin Neonatal [Serial online] 2002 Dec; 7(6):477-86 [Cited 2011Nov 4]; Available from http://www.ncbi.nlm.nih.gov/pubmed/12614600.

2. *Jane Sheppard.* The Benefits and Joys of Infant Massage. [Cited 2011 Nov 5]; Available from http://www.healthychild.com/massage/the-benefits-and- joys-of-infant-massage

3. Massage overview. [Cited 2011 Nov 8]; Available from http://www.umm.edu/altmed/articles/massage-000354.htm

4. Kulkarni A, Kaushik JS, Gupta P, Sharma H, Agrawal RK. Massage and touch therapy in neonates: the current evidence. Indian Pediatr [Serial online] 2010 Sep; 47(9):771-6[cited 2011 Nov 14]; Available from http://www.ncbi.nlm.nih.gov/pubmed/21048258

5. Eichenfield LF, McCollum A, Msika P. The benefits of sunflower oleodistillate (SOD) in pediatric dermatology. PediatrDermatol [Serial online] 2009 Nov-Dec; 26(6):669-75 [Cited 2011 Nov 8]; Available from http://www.ncbi.nlm.nih.gov/pubmed/20199440

6. Nicole Langton. Coconut oil health benefits. [Online] Jun 11, 2010[cited Nov 5]; Avilable from http://www.livestrong.com/article/146084-coconut-oil- health-benefits/

7. Sankaranarayanan K, Mondkar JA, Chauhan MM, Mascarenhas BM, Mainkar AR, SalviRY. Oil massage in neonates: an open randomized controlled study of coconut versus mineral oil.Indian Pediatr [Serial online] 2005 Sep; 42(9): 877-84[Cited 2011 Nov 12]; Avilable from http://www.ncbi.nlm.nih.gov/pubmed/16208048

8. Beachy JM. Premature infant massage in the NICU. Neonatal Netw [Serial online] 2003 May-Jun; 22(3):39-45[cited 2011 Nov 22]; Available from http://www.ncbi.nlm.nih.gov/pubmed/12795507

9. R Saeedi, M Gholami, SH Dinparva, M Kabirian. Transcutaneous Feeding: The Effect of Massage with Coconut Oil on Weight Gain in Preterm Newborns. Iranian Red Crescent Medical Journal. [Online]. [Cited 2011 Nov 10]; Available fromhttp://ircmj.com/?page=download&file_id=3789

10. Dr. Neeru Singh, Dr. Kalyan B. Saha, Dr. Rakesh C. Mishra. Newborn Health among Tribes of Madhya Pradesh- An Overview. [Online]. [Cited 2011 Nov 25]; Available from http://icmr.nic.in/000519/updatevol4no1.pdf

11. Jean L, Duffy, Rebecca M, Ferguson, Gary L. Darmstadt Opportunities for Improving, Adapting and Introducing Emollient Therapy and Improved Newborn Skin Care Practices in Africa. [Online]. [Cited 2011 Nov 12]; Available from http://tropej.oxfordjournals.org/content/early/2011/05/10/tropej.fmr039.a bstract

12. Chang SM, Sung HC. Application of massage therapy in premature infant nursing care. Hu Li ZaZhi [Serial online] 2007 Feb; 54(1):78-82 [Cited 2011 Nov 23]; Available from http://www.ncbi.nlm.nih.gov/pubmed/17340551

13. Anjali kulkarni, Jaya Shankar kaushik, Piyushgupta, Harsh Sharma, RK Agrawal. Massage and touch therapy in neonates: the current evidence. Indian pediatrics. [Online]. Vol 47. Sep17. 2010. [Cited 2011 Nov 15]; A vailable from http://medind.nic.in/ibv/t10/i9/ibvt10i9p771.pdf

14. Lahat S, Mimouni FB, Ashbel G, Dollberg S. Energy expenditure in growing preterm infants receiving massage therapy. J Am CollNutr [Serial online] 2007; 26: 356-359 [Cited 2011 Nov 27]; Available from http://medind.nic.in/ibv/t10/i9/ibvt10i9p771.pdf

15. Diego MA, Field T, Hernandez-Reif M. Preterm infant massage elicits consistent increase in vagal activity and gastric motility that are associated with greater

weight gain. ActaPaediatr [Serial online] 2007; 96: 1588- 1591[Cited 2011 Nov 27]; Available from http://medind.nic.in/ibv/t10/i9/ibvt10i9p771.pdf

16. Afsar FS. Skin care for preterm and term neonates. Clin Exp Dermatol [Serial online] 2009 Dec; 34(8):855-8 [Cited 2011 Nov 20]; Avilable from http://www.ncbi.nlm.nih.gov/pubmed/19575734
17.
18. Darmstadt GL, Saha SK. Traditional practice of oil massage of neonates in Bangladesh.J Health Popul Nutr [Serial online] 2002 Jun; 20(2):184-8[Cited 2011 Nov 15]; Available from http://www.ncbi.nlm.nih.gov/pubmed/12186200
19. The benefits of baby massage. [Online]. [Cited 2011 Nov 16]; Available from http://iaimbabymassage.co.uk/baby-massage-benefits.html
20. Arora J, Kumar A, Ramji S. Effect of oil massage on growth and neurobehavior in very low birth weight preterm neonates.Indian Pediatr [Serial online] 2005 Nov; 42(11):1092-100 [Cited 2011 Nov 11]; Available from http://www.ncbi.nlm.nih.gov/pubmed/16340050
21. Massaro AN, Hammad TA, Jazzo B, Aly H. Massage with kinesthetic stimulation improves weight gain in preterm infants. J Perinatol [Serial online] 2009 May; 29(5):352-7 [Cited 2011 Nov 17]; Available from http://www.ncbi.nlm.nih.gov/pubmed/19148112
22. Wheeden A, Scafidi FA, Field T, Ironson G, Valdeon C, Bandstra E. Massage effects on cocaine-exposed preterm neonates. J DevBehavPediatr. [Serial online] 1993 Oct; 14(5):318-22[cited 2011 Nov 11]. Available from http://www.ncbi.nlm.nih.gov/pubmed/8254063
23. Gonzalez AP, Vasquez-Mendoza G, García-Vela A, Guzmán-Ramirez A, Salazar-Torres M, Romero-Gutierrez G. Weight gain in preterm infants following parent-administered Vimala massage: a randomized controlled trial. Am J Perinatol [Serial online] 2009 Apr; 26(4):247-52 [Cited 2011 Nov 22]; Available from http://www.ncbi.nlm.nih.gov/pubmed/19023851

24. Vickers A, Ohlsson A, Lacy JB, Horsley A. Massage for promoting growth and development of preterm and/or low birth-weight infants. Cochrane Database Syst Rev [Serial online] 2004 ;(2):CD000390 [Cited 2011 Nov 23]; Available from http://www.ncbi.nlm.nih.gov/pubmed/15106151

25. Darmstadt GL, Saha SK, Ahmed AS, Ahmed S, Chowdhury MA, Law PA,et al. Effect of skin barrier therapy on neonatal mortality rates in preterm infants in Bangladesh: a randomized, controlled, clinical trial.Pediatrics [Serial online] 2008 Mar; 121(3):522-9 [Cited 2011 Nov 11]; Available from http://www.ncbi.nlm.nih.gov/pubmed/18310201

26. Lee HK. The effect of infant massage on weight gain, physiological and behavioral responses in premature infants. Taehan Kanho Hakhoe Chi [Serial online] 2005 Dec; 35(8):1451-60 [Cited 2011 Nov 25]; Available from http://www.ncbi.nlm.nih.gov/pubmed/16415626

27. Kim, T.I., Shin, Y.H., White-Traut, R.C. Multisensory intervention improves physical growth and illness rates in Korean orphaned newborn infants. Res NursHealth. [Online] 2003.26, 424-33. [Cited 2011 Nov 27]; Available from http://www.diannalindensportsmassage.com/abstracts/abstracts-infantmassage.htm

28. Field T. Massage therapy facilitates weight gain in preterm infants. Current Directions in Psychological Science. [Online] 2010 10, 51-54. [Cited 2011 Nov];http://www.diannalindensportsmassage.com/abstracts/abstracts-infant-massage.html

29. Lee HK. The effects of infant massage on weight, height, and mother-infant interaction. TaehanKanhoHakhoe Chi [Serial online] 2006 Dec; 36(8):1331-9 [Cited 2011 Nov 16]; Available from http://www.ncbi.nlm.nih.gov/pubmed/17215606

APPENDICES

APPENDIX- A

LETTER SEEKING AND GRANTING PERMISSION FORCONDUCTING THE STUDY

ELLEN COLLEGE OF NURSING

(Recognized by Government of Tamilnadu and Indian Nursing Council, New Delhi
Affiliated to the Tamilnadu Dr.M.G.R Medical University,Chennai)

HOSPITAL ADDRESS : 285, Sathy Main Road, Gandhipuram,Coimbatore - 641 012.Ph : 0422-2521212,2525920 Fax : 0422 - 4373090
COLLEGE ADDRESS : Navakkarai, Madukkarai(PO),Coimbatore - 641 105.Ph : 0422 - 2656999,2656767,Fax : 0422 -2656400
Website : www.ellencollegeofnursing.org E-mail : ellencollegeofnursing@gmail.com

Dr.A.GUNASINGH EMMANUEL, M.A.,B.L.,Ph.D.,
Chairman & Correspondent

Date : 06/01/2015
Ref : ECN/PERM 2014-15

To
Flemy Grace Hospital
Mukkadu, Thickanamcode
Nagarkovil.

Respected Sir,

A.LATHA is a student of Ellen College of Nursing; Coimbatore studying M.Sc (nursing) II year. She is conducting. 'A Study to assess the effectiveness of massage therapy on health promotion of newborn delivered by LSCS mother in selected hospital at Nagarkovil'.

This is for her research work to be submitted to the Tamilnadu Dr.M.G.R.Medical University in partial fulfillment of the university requirement for the university requirement for the award of M.Sc Nursing Degree.

As a part of her study she would like to collect data from Mother from your well authorized hospital. Project will be furnished by the student personally. The norms, ethics and policies practiced in the hospital setting will be followed by the student.

Thanking you,

Yours faithfully,

Dr. DANIEL KIRUBAHARA LAL
B.Sc., M.B.B.S., DCH.
Reg. No. 51801
FLEMY GRACE HOSPITAL
MUKKADU, CHEMPONVILAI - 629 804
KANYAKUMARI DISTRICT

PRINCIPAL
ELLEN COLLEGE OF NURSING
NAVAKKARAI, COIMBATORE - 641 105

APPENDIX-B

LETTER SEEKING EXPERTS OPINION FOR CONTENT VALIDITY

ELLEN COLLEGE OF NURSING

(Recognized by Government of Tamilnadu and Indian Nursing Council, New Delhi
Affiliated to the Tamilnadu Dr.M.G.R Medical University,Chennai)

HOSPITAL ADDRESS : 285, Sathy Main Road, Gandhipuram,Coimbatore - 641 012.Ph : 0422-2521212,2525920 Fax : 0422 - 4373090
COLLEGE ADDRESS : Navakkarai, Madukkarai(PO),Coimbatore - 641 105.Ph : 0422 - 2656999,2656767,Fax : 0422 -2656400
Website : www.ellencollegeofnursing.org E-mail : ellencollegeofnursing@gmail.com

Dr.A.GUNASINGH EMMANUEL, M.A.,B.L.,Ph.D.,
Chairman & Correspondent

Date : 10/11/2014
Ref :

REQUISITION FOR CONTENT VALIDITY

From

A.LATHA
II YEAR M.Sc (Nursing),
Ellen College of Nursing,
Coimbatore-641105.

Through

The Principal
Ellen College of Nursing,
Coimbatore-641105.

To

PRINCIPAL
ELLEN COLLEGE OF NURSING
NAVAKKARAI, COIMBATORE - 641 105

Respected Sir / Madam

Sub: Requisition for expert opinion and suggestion for content validity of the tools---Reg.

I am student of M.Sc (Nursing) II Year Ellen College of Nursing; Coimbatore affiliated to The Tamilnadu Dr.M.G.R.Medical University, Chennai. As a partial fulfillment of the M.Sc (Nursing) Programme. I am conducting 'A Study to assess the effectiveness of massage therapy on health promotion of newborn delivered by LSCS mother in Selected hospital at Nagarkovil' .I am hereby enclosing the following:-

1. Statement and Objectives of the Study
2. Hypotheses
3. Methodology
4. Tools
5. Intervention
6. Content Validity Certificate.

I kindly request your guidance and valuable suggestions on the content submitted with us. It would be helpful for me to precede my dissertation.

Thanking you

Yours faithfully

Place:

Date:

APPENDIX – C

ELLEN COLLEGE OF NURSING

(Recognized by Government of Tamilnadu and Indian Nursing Council, New Delhi
Affiliated to the Tamilnadu Dr.M.G.R Medical University,Chennai)

HOSPITAL ADDRESS : 285, Sathy Main Road, Gandhipuram,Coimbatore - 641 012.Ph : 0422-2521212,2525920 Fax : 0422 - 4373090
COLLEGE ADDRESS : Navakkarai, Madukkarai(PO),Coimbatore - 641 105.Ph : 0422 - 2656999,2656767,Fax : 0422 -2656400
Website : www.ellencollegeofnursing.org E-mail : ellencollegeofnursing@gmail.com

Dr.A.GUNASINGH EMMANUEL, M.A.,B.L.,Ph.D.,
Chairman & Correspondent

Date :
Ref :

CERTIFICATE OF VALIDATION

This is to certify that the tool submitted by Ms.A.LATHA. M.Sc (Nursing) II - Year student of Ellen College of Nursing; Coimbatore, Tamilnadu (Affiliated to The Tamilnadu Dr.M.G.R.Medical University, Chennai) is validated by undersigned and can proceed with this tool and conduct the dissertation entitled. 'A Study to assess the effectiveness of massage therapy on health promotion of newborn delivered by LSCS mother in selected hospital at Nagarkovil'

Place: Coimbatore

Signature

Date:

Name and Designation

LIST OF EXPERTS FOR CONTENT VALIDITY

MEDICAL EXPERTS

1. **DR.KIRUBAKARA LAL., M.B.B.S., DCH**
   FLEMY GRACE HOSPITAL
   THICKANAOMCODE,
   NAGERCOIL, KANIYAKUMARI DISTRICT.

NURSING EXPERTS

3. **MRS.JESINTHA., M.SC(N)**
   PROFESSOR,
   ST.XAVIER'S CATHOLIC COLLEGE OF NURSING
   CHUNKANKADAI, KANIYAKUMARI DISTRICT.

4. **MRS. VIJILA BERLIN, M.SC(N)**
   VICE PRINCIPAL,
   GLOBAL COLLEGE OF NURSING
   NATTALAM, KANIYAKUMARI DISTRICT

5. **MRS.FELCIA., M.SC(N)**
   ASST.PROFESSOR
   THASIAH COLLEGE OF NURSING
   MARTHANDAM, KANIYAKUMARI DISTRICT.

6. **MRS.JOYLET PAVLIAN., M.SC(N)**
   READER DEPARTMENT OF OBG
   C.S.I COLLEGE OF NURSING,
   MARTHANDAM, KANIYAKUMARI

7. **MRS.S.SELVA RAJINI**
   READER, DEPARTMENT OF OBG
   GRACE COLLEGE OF NURSING
   PADANTHALUMOODU, KANIYAKUMARI DISTRICT.

APPENDIX-D

TOOL

PART –I DEMOGRAPHIC VARIABLES
SECTION – A
VARIABLES FOR THE MOTHER

1. Age of the mother
    a) 21 – 25 years
    b) 26 – 30 years
    c) 31 – 35 years

2. Religion of the mother
    a) Christian
    b) Hindu
    c) Muslim
    d) others

3. Gravida of the mother
    a) Primigravida
    b) Multi gravida

4. Education of the mother
    a) primary
    b) Secondary
    c) Graduate
    d) Illiterate

5. Occupation of the mother
    a) Employed

b) Self employed

c) Unemployed

SECTION – B

VARIABLES FOR THE BABY

1. Age of the baby
    a) 1st day
    b) 2nd – 3rd day
    c) 4th – 5th day
2. Sex of the baby
    a) Male
    b) Female
3. Weight of the baby
    a) 2 – 2.5 kg
    b) 2.5 – 3 kg
    c) Above 3kg
4. Gestational weeks at birth
    a) 37weeks – 38 weeks
    b) 39weeks – 40 weeks
5. Head circumference of the baby

a) 32.5cm – 34cm

b) 34.5cm – 36cm

SECTION –B

MODIFIED BRAZELTON NEONATAL BEHAVIOURAL ASSESSMENT SCALE

S.NO	BEHAVIOURAL PATTERN	SCORE			
		1	2	3	4
1	**HABITUATION**				
	Sleepy/drowsy				
	Awake/alert				
	Fussing/crying				
2	**SOCIAL INTERACTION**				
	Alertness				
	Responds to mothers voice				
	Focuses the voice				
3.	**AUTONOMIC SYSTEM**				
	Tremulousness				
	Startles				
	Smiles				
	Liability of skin colour				
4.	**STATE REGULATION**				
	Cuddliness				
	Consolability				
	Self-quieting				
	Hand-to-mouth				

5.	**MOTOR REGULATION**				
	Muscle tone				
	Motor maturity				
	Activity and posture				
	Reflexes				
	Pull-to-sit				
	Defensive				

Score

1 – None 2 – Mild 3 – Moderate 4 - Severe

APPENDIX-E

SCORING PROCEDURE

Section B: Modified Brazelton Neonatal Scale

Assessing the behavioural level by **Modified Brazelton Neonatal Scale**.Score were interpreted as follows,

Score	Level of behavior	Behavioral status
1	None	<20
2	Mild	21-40
3	Moderate	41-60
4	Severe	61-80

APPENDIX F

CRITERIA CHECKLIST FOR VALIDATION OF TOOL

Instruction: Kindly go through the items in the enclosed tool and place a tick mark against each item in the column provided indicating your opinion. There are 2 columns namely agree and disagree. If there are any suggestions please mention in the remarks column.

S.No.	Variables	Agree	Disagree	Remarks
1.	Variables for mother 1			
2.	Variables for mother 2			
3.	Variables for mother 3			
4.	Variables for mother 4			
5.	Variables for mother 5			
6.	Variables for the baby 1			
7.	Variables for the baby 2			
8.	Variables for the baby 3			
9.	Variables for the baby 4			
10.	Variables for the baby 5			
11.	Modified BNS 1			
12.	Modified BNS 2			
13.	Modified BNS 3			
14.	Modified BNS 4			
15.	Modified BNS 5			
16.	Modified BNS 6			
17.	Modified BNS 7			
18.	Modified BNS 8			
19.	Modified BNS 9			
20.	Modified BNS 10			
21.	Modified BNS 11			
22.	Modified BNS 12			
23.	Modified BNS 13			
24.	Modified BNS 14			
25.	Modified BNS 15			
26.	Modified BNS 16			
27.	Modified BNS 17			

28.	**Modified BNS 18**			
29.	**Modified BNS 19**			
30.	**Modified BNS 20**			
31.	**Modified BNS 21**			
32.	**Modified BNS 22**			
33.	**Modified BNS 23**			
34.	**Modified BNS 24**			
35.	**Modified BNS 25**			
36.	**Modified BNS 26**			
37.	**Modified BNS 27**			
38.	**Modified BNS 28**			
39.	**Modified BNS 29**			
40.	**Modified BNS 30**			

APPENDIX –G

CERTIFICATE OF VALIDATION

This tool which is submitted by LATHA on **"A study to assess the effectiveness of massage theraphy on Behavioural response of newborn delivered by LSCS mother in selected hospitals at Nagercoil."** is valued by me.

SIGNATURE

APPENDIX –H

CERTIFICATE OF ENGLISH EDITING TO WHOMSEEVER IT MAY CONCERN

This is to certify that the dissertation work **"A study to assess the effectiveness of massage theraphy on behavioral response of newborn delivered by LSCS mother in selected hospitals at Nagercoil."** done by **Mrs.LATHA M.Sc.(Nursing)** in Ellen college of nursing, Coimbatore is edited for English language appropriateness by Mrs.M.R.Telma Moses, M.A, B.Ed.

SIGNATURE

APPENDIX – I

INFORMED CONSENT

I **Mrs. LATHA**IIndYear, M.Sc. (Nursing) student from Ellen College of Nursing, Navakkarai, Coimbatore Conducting **"A study to assess the effectiveness of massage theraphy on behavioral response of newborn delivered by LSCS mother in selected hospitals at Nagercoil."** as a partial fulfillment of the requirement for the degree of M.Sc. (Nursing) under the Tamil Nadu Dr. M. G. R. Medical university. I assure you that the response given by you will be kept confidentially. So, I request you to kindly cooperate with me and participate in this study.

Thank you.

APPENDIX – J

INTERVENTION GUIDE FOR COCONUT OIL MASSAGE THERAPY FOR BEHAVIOURAL RESPONSE AMONG NEWBORN DELIEVERED BY LSCS

Introduction

The intervention chosen for the study was coconut oil massage therapy for the behavioral response among newborn delivered by LSCS mother.

Procedure

PRELIMINARIES

Assess the behavioral level of the newborn

Explain the procedure and its effects to the mothers regarding the coconut oil massage.

Check the behavioral level of the newborn by using Modified Brazelton Neonatal Scale

PROCEDURE

Explain the procedure to the mothers and get consent.

Apply coconut oil for the newborn in the morning and massage 10 minutes for 5 days.

POST TEST

After the 5 days of massage , post test was assessed by using the Modified Brazelton Neonatal Scale.

APPENDIX - K

SCHEDULE OF DATA COLLECTION 23.7.2014 - 30.08.2014

EXPERIMENTAL GROUP

DATE	NO.OF SAMPLES	ACTIVITIES PERFORMED		DURATION OF ACTION	ACTIVITIES PERFORMED
20.12.15	1	pretest	Coconut oil massage for newborn	5days	Posttest
22.12.15	4	pretest	Coconut oil massage for newborn	5days	Posttest
30.12.15	3	pretest	Coconut oil massage for newborn	5days	Posttest
2.1.16	3	pretest	Coconut oil massage for newborn	5days	Posttest

4.1.16	2	pretest	Coconut oil massage for newborn	5days	Posttest
5.1.16	1	pretest	Coconut oil massage for newborn	5days	Posttest
9.1.16	2	pretest	Coconut oil massage for newborn	5days	Posttest
11.1.16	3	pretest	Coconut oil massage for newborn	5days	Posttest
13.1.16	3	pretest	Coconut oil massage for newborn	5days	Posttest
14.1.16	1	pretest	Coconut oil massage for newborn	5days	Posttest
18.1.16	1	pretest	Coconut oil massage for newborn	5days	Posttest
21.1.16	2	pretest	Coconut oil massage for newborn	5days	Posttest
22.1.16	1	pretest	Coconut oil massage for newborn	5days	Posttest
23.1.16	3	pretest	Coconut oil massage for newborn	5days	Posttest

CONTROL GROUP

DATE	**NO.OF SAMPLES**	**ACTIVITIES PERFORMED**		**DURATION OF ACTION**	**ACTIVITIES PERFORMED**
23.12.15	2	pretest	No intervention	5days	Posttest
24.12.15	2	pretest	No intervention	5days	Posttest
25.12.15	1	pretest	No intervention	5days	Posttest
27.1.15	2	pretest	No intervention	5days	Posttest
29.1.15	2	pretest	No intervention	5days	Posttest
6.1.16	1	pretest	No intervention	5days	Posttest
8.1.16	3	pretest	No intervention	5days	Posttest
10.1.16	1	pretest	No intervention	5days	Posttest
15.1.16	3	pretest	No intervention	5days	Posttest
17.1.16	1	pretest	No intervention	5days	Posttest
19.1.16	2	pretest	No intervention	5days	Posttest
24.1.16	2	pretest	No intervention	5days	Posttest
26.1.16	1	pretest	No intervention	5days	Posttest
27.1.16	2	pretest	No intervention	5days	Posttest

28.1.16	3	pretest	No intervention	5days	Posttest
29.1.16	2	pretest	No intervention	5days	Posttest

CONCLUSION

From the result of the study, it was concluded that application of coconut oil is effective in improving the behavioural level of newborn babies.